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## A UNIT FOR SCARLET FEVER STREPTOCOCCUS ANTITOXIN<sup>1</sup>

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During the past few years several methods of testing the potency of scarlet fever streptococcus antitoxin have been tried. Dick and Dick (1) (2) (3), whose work furnishes the basis of the unit here suggested, tested the neutralization of scarlet fever streptococcus toxin by the antitoxin by means of a skin test on human beings; and Wadsworth, Kirkbride, and Wheeler (4) applied this method to the skin of goats. Dochez and Sherman (5) and Blake, Trask, and Lynch (6) (7) measured the antitoxic potency of serums by determining the smallest volume of the antitoxin which, when injected intracutaneously in the area of the rash in an early case of scarlet fever, would produce local blanching (Schultz-Charlton reaction). O'Brien (8) and Okell (9) tested the activity of antitoxins in producing passive immunity in individuals who were susceptible to the toxin of *Streptococcus scarlatinae*, while Parish and Okell (10) compared the potency of antitoxic serums in protecting rabbits against the septicemia produced by inoculation with broth cultures of the scarlet fever streptococcus. Dyer (11), Povitsky (12), Eagles (13), and others have attempted to apply the Ramon flocculation test, which has been employed for testing other antitoxins.

Of the methods cited, those based on testing the potency of antitoxin in neutralizing toxin as shown by skin tests have been used more extensively than any others, and seem to be the most useful. In these methods, as in methods early in use for testing other antitoxins, a fixed amount of a toxin is mixed with different amounts of antitoxin. The amount of toxin used in the mixtures is spoken of as the test dose and, in the case of the scarlet fever streptococcus toxin which we have used, contains five skin test doses—a skin test dose being the amount of toxin necessary to produce a reaction at least 1

<sup>1</sup> EDITORIAL NOTE.—The Permanent Commission on the Standardization of Sera, etc., of the Health Organization of the League of Nations has selected as a basis for study the standard scarlet fever streptococcus serum here described. The report of the commission (Frankfort-on-Main, Apr. 25 to 28, 1926) states:

"Without expressing an opinion on the etiology of scarlet fever or on the methods of testing sera prepared with the products of culture of hemolytic streptococci isolated from cases of scarlet fever, it would be useful to render future researches along this line more readily comparable. To this end, the standard serum adopted by the Federal Government of the United States may be selected as a basis for study; the Hygienic Laboratory has agreed to place at the disposition of the Health Organization of the League of Nations a sufficient quantity of the standard serum."

centimeter in diameter about 24 hours after intracutaneous injection in the majority of individuals susceptible to scarlet fever (1) (14). In using such a method it has been found that a great deal depends on the test subject, due to differences in susceptibility of individuals. In some individuals a certain volume of antitoxin when mixed with a given amount of toxin will show neutralization, while on other subjects several times as much antitoxin may be required to neutralize the same test dose of toxin.

Protocol I illustrates wide variations encountered in attempting to titrate an antitoxin against the toxin.

#### PROTOCOL I

*Illustrating conflicting results obtained in testing the potency of scarlet fever streptococcus antitoxin by the toxin neutralization method without a control serum<sup>1</sup>*

| Case No. | Toxin <sup>2</sup> | Antitoxin                   |  |  |  |  |  |
|----------|--------------------|-----------------------------|--|--|--|--|--|
|          | One skin test dose | 1/10,000 c. c. <sup>3</sup> | 1/10,000 c. c. plus toxin—<br>one skin test dose | 1/20,000 c. c. plus toxin—<br>one skin test dose | 1/30,000 c. c. plus toxin—<br>one skin test dose | 1/40,000 c. c. plus toxin—<br>one skin test dose | 1/50,000 c. c. plus toxin—<br>one skin test dose |
| 659..... | +                  | 0                           | 0  | 0  | 0  | 0  | 0  |
| 418..... | +                  | 0                           | 0  | 0  | 0  | 0  | +  |
| 519..... | +                  | 0                           | 0  | 0  | 0  | +  | +  |
| 608..... | +                  | 0                           | 0  | 0  | +  | +  | +  |
| 529..... | +                  | 0                           | 0  | +  | +  | +  | +  |
| 555..... | +                  | 0                           | +  | +  | +  | +  | +  |

<sup>1</sup> The same toxin and the same antitoxin were used throughout these tests.

<sup>2</sup> Toxin control.

<sup>3</sup> Serum control.

0 = Negative reaction.

+= Positive reaction.

From the foregoing protocol the necessity for some means of eliminating irregularities in results due to the varying susceptibility of subjects is obvious. It would seem that this could be accomplished best by a method similar to that used in the present official standardization of other antitoxins—that is, by the establishing of a standard serum as the fixed basis with which the antitoxins to be tested could be compared. To serve this purpose a serum was selected and dried to insure stability. The redissolved serum was then carefully titrated against the previously selected test dose of toxin on a sufficient number of subjects to determine the reciprocal neutralizing value of the serum and the toxin, one against the other. In applying the standardization test in practice, a range of doses of the standard serum are mixed each with a test dose of toxin and injected intracutaneously. On the same subject, at the same time, a range of doses of the antitoxin to be tested, mixed with the same test dose of toxin, are injected. Thus, the volume of a new antitoxin is determined which will neutralize one test dose of toxin on a given subject, and this volume is compared with the volume of the standard control serum

which also shows neutralization of one test dose of toxin on the same subject at the same time. As the neutralizing value of the standard serum is known, the potency of the new antitoxin may be calculated readily. Thus, if, on a certain individual, 1/400 of a cubic centimeter is found to be the smallest volume of the standard serum which will neutralize one test dose of toxin, and 1/6,000 of a cubic centimeter of a new antitoxin also shows neutralization of one test dose of toxin, then the new antitoxin is 15 times as strong as the standard serum.

It seems desirable that the definition of the potency of scarlet fever streptococcus antitoxin should be expressed in terms of "units" as with other antitoxins in common use. To avoid confusion, possibly arising from different-sized doses of similar products, it also seems desirable that the average therapeutic dose of scarlet fever streptococcus antitoxin should be approximately the same as that of diphtheria antitoxin, the doses of both being expressed in units. It has been found by clinicians that the average therapeutic dose of scarlet fever streptococcus antitoxin should contain enough antitoxin to neutralize from 300,000 to 500,000 skin test doses of toxin. Establishing as a unit 10 times the smallest amount of the standard serum which has been found necessary to neutralize one test dose of toxin, each test dose representing five skin test doses, the therapeutic dose of the antitoxin will approximate in number of units the average dose of diphtheria antitoxin.

The standard scarlet fever streptococcus serum is kept at the Hygienic Laboratory under the same conditions of storage that have been maintained with the standard diphtheria and tetanus unit serums for several years, during which time no measurable deterioration has taken place in the latter serums.

A definite amount of this standard serum is therefore suggested as a permanent unit. This unit has been selected to equal 10 times the smallest amount of scarlet fever streptococcus antitoxin necessary to neutralize one test dose of toxin, but the designated amount of serum, and not the toxin dose, is the final measurement of reference; that is, the unit will remain the same without regard to the dose of toxin used from time to time for comparing the standard with other antitoxins, or the method of test employed. The standard serum as dissolved at present contains 40 such units per cubic centimeter.

Protocol II illustrates the results of tests to determine the toxin neutralizing potency of a new antitoxin in comparison with the standard serum.

## PROTOCOL II

*Potency test on scarlet fever streptococcus antitoxin Lot X*

| Case  | Hour of reading | Antitoxin X                |  |  |  |  | Hygienic laboratory standard serum lot C <sup>1</sup> |  |  |  |  | Toxin, <sup>3</sup><br>one skin<br>test dose | Number of<br>units per<br>c. c. of anti-<br>toxin Lot X |
|-------|-----------------|----------------------------|--|--|--|--|---|--|--|--|--|--|---|
|       |                 | 1/4,000 c. c. <sup>2</sup> | 1/4,000 c. c. plus one<br>test dose of toxin | 1/5,000 c. c. plus one<br>test dose of toxin | 1/6,250 c. c. plus one<br>test dose of toxin | 1/7,800 c. c. plus one<br>dose test of toxin | 1/400 c. c. <sup>2</sup>                              | 1/400 c. c. plus one<br>test dose of toxin | 1/900 c. c. plus one<br>test dose of toxin | 1/925 c. c. plus one<br>test dose of toxin | 1/780 c. c. plus one<br>test dose of toxin |  |   |
| 480.. | 24              | 0                          | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0  | 15x17  | 500.  |
|       | 48              | 0                          | 0  | 8x7  | 8x11   | 8x11   | 0   | 7x8  | 8x10                                       | 7x11                                       | 12x14                                      | 0  |   |
| 324.. | 24              | 0                          | 0  | 0  | 0  | 0  | 0   | 3x3  | 3x6  | 5x5  | 7x9  | 20x25  | 500.  |
|       | 48              | 0                          | 5x5  | 0  | 0x14   | 6x10   | 0   | 5x6  | 8x10                                       | 9x12                                       | 10x15                                      | Fading.                                      |   |
| 237.. | 24              | 0                          | 4x4  | 3x4  | 3x4  | 3x3  | 0   | 3x3  | 5x5  | 6x7  | 7x8  | 20x21  | 500.  |
|       | 48              | 0                          | 0  | 0  | 0  | 8x8  | 0   | 7x9  | 8x8  | 8x9  | 10x12                                      | 0  |   |
| 676.. | 24              | 0                          | 0  | 0  | 4x5  | 0  | 0   | 0  | 0  | 0  | 0  | 15x15  | No end point.   |
|       | 48              | 0                          | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0  | 0  |   |
| 270.. | 24              | 0                          | 3x5  | 0  | 8x11   | 10x11  | 0   | 6x6  | 5x4  | 10x14                                      | 10x15                                      | 25x25  | No end point.   |
|       | 48              | 0                          | 9x11   | 15x19  | 15x20  | 15x25  | 0   | 9x14                                       | 15x19                                      | 17x19                                      | 15x21                                      | Fading.                                      |   |
| 063.. | 24              | 10x11                      | 10x11  | 8x10   | 10x11  | 8x11   | 8x12  | 11x15                                      | 10x15                                      | 12x15                                      | 10x14                                      | 15x22  | Serum sensi-<br>tive.                                   |
|       | 48              | 0                          | 3x4  | 7x8  | 8x12   | 9x7  | 0   | 0  | 7x8  | 9x11                                       | 8x9  | 15x25  |   |

<sup>1</sup> Standard serum containing 40 units per c. c.<sup>2</sup> Serum control.<sup>3</sup> Toxin control.

0=No reaction.

NOTE.—Measurements of two diameters of each reaction are recorded in millimeters.

The fraction of a cubic centimeter of serum is stated in each instance. Reactions less than 1 centimeter in diameter are considered negative. Neutralization is considered complete only when reactions to toxin-antitoxin mixtures are negative at both the 24 and 48 hour readings.

Protocol III illustrates the titration of a new lot of antitoxin by a manufacturer, while Protocol IV gives the results of tests made at the Hygienic Laboratory on the same lot.

## PROTOCOL III

*Manufacturer's protocol giving the results of his tests to determine potency of a new lot of antitoxin.*

| Case      | Hour of reading | Manufacturer's antitoxin Lot 50 |   |   | Hygienic Laboratory standard serum Lot C |   |   |   | Hygienic Laboratory control toxin, one skin test dose | Number of units per c. c. of antitoxin Lot 50 |
|-----------|-----------------|---------------------------------|---|---|--|---|---|---|---|---|
|           |                 | 1/5,000 c. c.                   | 1/5,000 c. c. plus one test dose of toxin | 1/6,000 c. c. plus one test dose of toxin | 1/400 c. c.                              | 1/400 c. c. plus one test dose of toxin | 1/900 c. c. plus one test dose of toxin | 1/900 c. c. plus one test dose of toxin |   |   |
| R. J..... | 24              | 0                               | 0   | 0   | 0  | 0                                       | 9 x 7                                   | 9 x 9                                   | 15 x 15   | 300   |
|           | 48              | 0                               | 8 x 8                                     | 10 x 13                                   | 0  | 0                                       | 9 x 15                                  | 12 x 9                                  | 15 x 15   |   |
| M. V..... | 24              | 0                               | 0   | 6 x 6                                     | 0  | 0                                       | 8 x 9                                   | 7 x 10                                  | 19 x 20   | 300   |
|           | 48              | 0                               | 0   | 9 x 14                                    | 0  | 0                                       | 7 x 10                                  | 10 x 11                                 | 15 x 18   |   |
| K. A..... | 24              | 0                               | 0   | 17 x 17                                   | 0  | 0                                       | 10 x 9                                  | 10 x 10                                 | 25 x 25   | 300   |
|           | 48              | 0                               | 0   | 22 x 23                                   | 0  | 0                                       | 10 x 10                                 | 12 x 11                                 | 25 x 25   |   |

NOTE.—See footnotes with Protocol II.



## PROTOCOL IV

*Results of tests made at the Hygienic Laboratory on same lot of manufacturer's antitoxin shown in Protocol III*

| Case | Hour of reading | Antitoxin Lot 50  |  |  |  | Hygienic Laboratory standard serum Lot C |   |   |   |   | Hygienic Laboratory control toxin, one skin test dose | Number of units per c. c. of antitoxin, Lot 50 |
|------|-----------------|---|--|--|--|--|---|---|---|---|---|--|
|      |                 | 1/5000 c. c.  | 1/5000 c. c. plus one test dose of toxin | 1/6250 c. c. plus one test dose of toxin | 1/7500 c. c. plus one test dose of toxin | 1/400 c. c.                              | 1/400 c. c. plus one test dose of toxin | 1/500 c. c. plus one test dose of toxin | 1/625 c. c. plus one test dose of toxin | 1/750 c. c. plus one test dose of toxin |   |  |
| 674  | 24              | 0   | 5x5                                      | 5x5                                      | 8x10                                     | 0  | 0                                       | 0                                       | 4x4                                     | 6x6                                     | 16x17   | } 500.   |
|      | 48              | 0   | 6x5                                      | 13x14                                    | 18x28                                    | 0  | 0                                       | 10x15                                   | 10x18                                   | 13x15                                   | 0   |  |
| 505  | 24              | 0   | 0  | 0  | 0  | 0  | 0                                       | 0                                       | 0                                       | 0                                       | 17x25   | } 500.   |
|      | 48              | 0   | 0  | 10x10                                    | 11x14                                    | 0  | 7x9                                     | 9x13                                    | 9x11                                    | 14x12                                   | 0   |  |
| 324  | 24              | 0   | 5x5                                      | 9x9                                      | 8x9                                      | 0  | 3x3                                     | 3x6                                     | 5x5                                     | 7x9                                     | 20x25   | } 500.   |
|      | 48              | 0   | 8x8                                      | 11x20                                    | 15x27                                    | 0  | 5x6                                     | 8x10                                    | 9x12                                    | 10x15                                   | Fading.   |  |
| 332  | 24              | 0   | 4x4                                      | 5x4                                      | 14x13                                    | 0  | 0                                       | 0                                       | 4x5                                     | 3x5                                     | 30x25   | } No end point.                                |
|      | 48              | 0   | 18x22                                    | 25x25                                    | 25x30                                    | 0  | 20x18                                   | 20x20                                   | 15x20                                   | 20x20                                   | 0   |  |
| 745  | 24              | 30x30   | 30x30                                    | 30x35                                    | 30x30                                    | 25x25                                    | 30x30                                   | 30x30                                   | 30x30                                   | 25x25                                   | 20x30   | } Serum sensitive.                             |
|      | 48              | Serum reactions approximately the same size as at 24-hour reading |  |  |  |  |   |   |   |   | 0   |  |

NOTE.—See footnotes with Protocol II.

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## CURRENT WORLD PREVALENCE OF COMMUNICABLE DISEASES<sup>1</sup>

United States, May 6-June 2, 1928

The mortality rate from all causes in 67 large cities in the United States dropped off rapidly after the second week in May from the high level which had prevailed since the middle of March. Nevertheless, the general death rate in these cities remained relatively high; for the week ended June 2 it was 13.3 per 1,000 population (annual basis), as against 11.8 in the corresponding week of 1927 and 12.3 in the corresponding week of 1926. Although the death rate at no time rose sharply to an epidemic height, the maximum rate for a single week being 15.5 in the week ended May 5, the mortality rate averaged approximately 15 per 1,000 for a period of 8 weeks, and the death rate in these cities from January 1 to June 2 has been 14.3 as against 13.5 in the corresponding period of 1927. The rate is more favorable to date for the year, however, than it was in 1926, when there was a marked respiratory epidemic, and is about the same as it was in 1925.

*Influenza and pneumonia.*—The mortality from influenza and pneumonia in the principal cities also remained on a relatively high level as compared with the preceding year, but in the week ended May 19 the deaths from these causes turned downward. The death rate from influenza and pneumonia combined in the week ended May 19 was higher, on the average, than last year in the cities in all sections of the country except in the South Atlantic, West South Central, and Pacific divisions.

The number of cases of influenza reported by 31 States declined sharply, however, during the month of May. The maximum was reported for the week ended May 5, with 4,185 cases, and the weekly incidence dropped to 1,212 for the week ended June 2. The reported incidence in the early winter showed only a normal seasonal increase and compared very favorably with the same period of 1927; but in 1927 the maximum incidence was passed in the early part of March, when 2,532 cases were reported for the week ended March 10, whereas in the current year the most marked increase in cases occurred unusually late. This may have some relation to the fact that no real epidemic prevalence, such as occurred in February and March, 1926, took place, although cases of the disease were numerous throughout April. The decline in cases during May was noted in practically all States.

*Meningococcus meningitis.*—A decrease in the reported incidence of meningococcus meningitis occurred in the week ended June 2, when 101 cases were reported by 42 States, which is the smallest number reported by these States since the week ended March 3. During the four weeks ended June 2, these 42 States reported 493 cases, of

<sup>1</sup> From the Office of Statistical Investigations, United States Public Health Service.

which 359 were in the following eight States: California, Illinois, Michigan, Missouri, New Jersey, New York, Pennsylvania, and Wisconsin. Of these eight States, only New York showed a decline from the total cases reported in the preceding four-week period, and Michigan, Missouri, New Jersey, and Wisconsin reported an increased number.

*Smallpox.*—The incidence of smallpox continued to decline during the month of May, the total number of cases reported by 42 States during the four-week period ended June 2 being 3,519, as compared with 3,900 for the preceding four-week period. The decline has been general, with no very marked change in the number of cases in any State. A slight increase in the number of cases was reported in Alabama, where the cases for the two weeks ended June 2 numbered 58, as compared with 15 in the preceding two weeks.

*Scarlet fever.*—The number of cases of scarlet fever reported weekly by 42 States and the District of Columbia has declined steadily though slowly since March. In the week ended June 2, the total number reported was 2,762 cases, as compared with 4,022 in the week ended May 5. The decline may be expected to continue throughout the summer, as the lowest incidence is usually reached at the end of August. The total reported incidence has been somewhat less in the current year than in 1927, but about equal to that in 1926. The case incidence reported in cities, however, indicates that the disease has been more prevalent than a year ago in the South Atlantic, East South Central, and West South Central divisions of the country, but much less prevalent in all other sections.

*Diphtheria.*—A gradual decline in the incidence of diphtheria continued through May and there were about 900 cases reported by 42 States for the week ended June 2, approximately 200 less than the weekly totals in the first half of May. During the four-week period ended June 2, 3,951 cases were reported, which was 1,000 less than the number reported for the same period in 1927, but only slightly less than in 1926. Throughout April and May the number of cases reported by the individual States showed very little change. In May a slight increase occurred in California, New Jersey, and Michigan, but the general trend in nearly all States was downward.

*Typhoid fever.*—The number of cases of typhoid fever reported weekly by 42 States began to increase during the month of May. For the four-week period ended June 2, there were 873 cases reported, as compared with 687 cases for the preceding four-week period. A slight increase occurred in several of the States. In Alabama the number of cases increased from 17 in the four-week period ended May 5 to 36 in the four-week period ended June 2; in California the number increased from 20 to 62; in Georgia from 13 to 53; in Tennessee from 16 to 39; in Wisconsin from 11 to 126. The increase in typhoid fever cases is normal for this season of the year, and the incidence is considerably lower than that of last year and slightly less than in 1926.

*Poliomyelitis.*—The number of cases of poliomyelitis increased during May; 102 cases were reported by 43 States during the four weeks ended June 5, as compared with 81 the preceding four weeks. In California the number of cases declined from 23 to 18, but in New York the number increased from 4 to 13; in Massachusetts, cases increased from 3 to 7; and in Pennsylvania 5 cases were reported in the earlier four weeks and 6 cases in the later. No other States reported more than five cases in either period.

*Measles.*—The expected seasonal decline in the incidence of measles began during May, as is evident from the reports of 38 States, which showed a total of 32,000 cases for the two weeks ended June 2, as compared with 36,500 cases for the two-week period ended May 5. In general, measles has maintained a higher level throughout the present year than in 1927, but is lower than in 1926. Among the States showing a significant decrease in the number of cases of measles reported are Arkansas, Georgia, Indiana, Louisiana, Maryland, Massachusetts, North Carolina, and Tennessee. On the other hand, several of the States reported a slight increase in the number of cases for the same period. In New York the number of cases reported increased from 7,012 in the two weeks ended May 5 to 8,157 in the two weeks ended June 2, and in Pennsylvania, from 4,689 to 5,548. The decrease should become more general during June, as the incidence reaches its lowest point in midsummer.

#### Foreign Countries<sup>1</sup>

The general prevalence for certain epidemic diseases in most foreign countries during March and April is summarized below.

*Plague.*—The plague outbreak at Aden decreased rapidly in April; 314 cases were reported in the two weeks ending April 7, 167 cases were reported in the next two weeks, and only 66 cases in the two weeks ending May 5. The reported fatality of cases has averaged about 75 per cent, and the deaths since the beginning of the year give a death rate of no less than 20 per 1,000 population. The population of Aden is about 55,000.

At Baghdad sporadic cases continued to occur, but only 18 cases had been reported from January 1 to May 12, 1928.

In India, plague was very much more in evidence in the United Provinces in March than elsewhere. During the four weeks ended March 24 14,875 deaths were attributed to plague in that Province, being 73.5 per cent of all India's plague mortality during those weeks. There were two main centers—an eastern one, including the districts of Azamgarh, Ghazipur, Gorakhpur, Bastia, and Fyzabad, and a northwestern one, in which the districts of Muzaffarnagar, Moradabad, Badaun, Bareilly, Pilibhit, Shahjahanpur, and Hardoi reported the largest number of cases.

<sup>1</sup> Data from the Monthly Epidemiological Report of the Health Section of the League of Nations' Secretariat, May 15, 1928, supplemented by information published in the PUBLIC HEALTH REPORTS.



The maximum plague mortality in the eastern center of the United Provinces is normally reached in March, so no further considerable increase is likely to occur. In the western center, however, the peak of the curve is not likely to be reached before the middle of April. The present outbreak, in so far as the United Provinces is concerned, is likely to reach the same intensity as that of 1923; it is considerably more severe than those which occurred between 1924 and 1927.

The plague situation remains very favorable in the Punjab, only Ambala and neighboring districts in the northern part of the Province being affected by the disease.

At Hong Kong, one case of plague was reported on May 4, the first since September, 1923.

At Suez, 8 cases of plague occurred during April, and 42 cases had been reported since the beginning of the year. One case of plague was reported from Algiers on May 2, the only case to occur in the current year. No cases were reported in April in Mediterranean countries.

The number of plague cases reported in Senegal increased as usual in April, and during the first 20 days of that month 51 cases were reported in the district of Tivaouane and 30 cases in that of Thies. No plague case has been reported at Dakar since November. There were 12 plague cases at Lagos during the four weeks ended April 28, but none elsewhere in Nigeria; no case has been reported at Ijebu since February 11.

Plague was reported in several localities in Brazil during the early months of the year. In January there was a small outbreak at Parna-hyba in the State of Sao Paulo; in March there were 2 cases at Porto Alegre. Thirty cases were reported at Bahia and 12 at Rio de Janeiro during the first quarter of the year. The Federal Health Service stated on April 19 that the last cases in those towns occurred 20 and 30 days previously, respectively.

In the Argentine, sporadic plague cases have been reported since the beginning of the year at Rosario, Buenos Aires, and at various inland localities in the Provinces of Cordoba, Santa Fe, and Santiago, which comprise the great plains west of the Parana River.

In Peru, 71 plague cases were reported in January and 41 in February, which is more than were reported last year but less than were reported in earlier years; 8 of these cases occurred in the town of Lima. Only 10 cases were reported at Guayaquil during the two first months of the year, as compared with 52 and 56 cases during the corresponding periods of 1926 and 1927, respectively.

Plague was reported in March about 60 miles from Caracas, in the State of Miranda in Venezuela.



*Cholera.*—The number of cholera cases reported in India increased from 9,293 during the three weeks ended March 3 to 14,144 in the following three weeks. This is the season, however, when such an increase usually occurs. A large majority of the cases (81 per cent) occurred in Bengal and the adjoining districts of Bihar and Orissa; the increase was confined to this area, whereas the incidence has decreased in Madras Presidency since the beginning of February.

In Siam, 768 cholera cases were reported during the first quarter of 1928, which is slightly more than the number reported during the corresponding period of the preceding year. There has been no increase of the incidence since early in February.

Cholera cases have increased steadily during the current year in Cochin-China, where 593 cases were reported in the first 20 days of April as against 462 in the preceding 20 days. In Cambodia, the number of cases began to increase at the end of March, and 145 cases were reported in the first 20 days of April, as compared with 55 cases in the first 20 days of March. The disease is more prevalent than it was last year in Cochin-China, but less prevalent in Cambodia. Very few cases have been reported in other parts of Indo-China.

*Influenza.*—No epidemics of influenza occurred during the first four months of the year anywhere in Europe, and the past winter can be described as one of the most favorable influenza years since 1918. In English towns, the mortality from influenza during the first four months was equally low only in 1921 and 1923.

There was a small increase of influenza deaths at the end of March in English, Dutch, and German towns, but the incidence soon decreased again. In Vienna, where influenza was little in evidence during the preceding winter, it caused 50 deaths in March, as compared with 6 in February.

In the Netherlands, the number of deaths attributed to influenza increased from 122 in February to 419 in March, giving a total of 688 deaths during the first quarter of 1928, as compared with 2,824 and 432 deaths during the corresponding period of 1927 and 1926, respectively. In March, 73 deaths occurred at Rotterdam, 32 at The Hague, and 22 at Amsterdam.

In the Union of Soviet Socialist Republics, influenza was more prevalent in January, the latest month for which figures are available, than in the corresponding month a year ago. Moscow town and Government reported 63,481 cases and Leningrad town and Government 10,931 cases, as compared with 16,486 and 2,163 cases, respectively, in January, 1927. During the same month, there were only 63 deaths from influenza in Leningrad and 46 in Moscow, which shows that the disease was of a benign type. The increase over last year seems to have extended over the whole country, but to have been least marked in Siberia.

Influenza was reported to be epidemic and causing a considerable mortality in December, 1927, in the Province of Chihli in Northern China; in November it had been epidemic in Shantung and Kiangsu, the two Provinces south of Chihli. Influenza was epidemic in December also in Yunnan, but was of a mild type, causing no appreciable mortality.

There was a slight increase of deaths attributed to influenza in towns in Japan in March, the number being 450 during the four weeks ended March 31, as compared with 228 during the preceding four weeks.

### CURRENT STATE MORTALITY STATISTICS

For the information of public health officials and others interested, the data in the following tables have been compiled from the monthly mortality reports of State health departments for the latest month for which published records are available. Statistics of most communicable diseases are not included, since they are available in other tabulations in the Public Health Reports. Statistics of deaths from other causes are limited for the most part to those causes which appear in the State reports. In the case of States which publish detailed mortality reports each month, the record of only the principal groups of causes and certain important specific causes have been used.

For purposes of comparison, the mortality records for a few preceding years are given, the rates being for the month corresponding to the last month for which the 1928 rate is available.

These tabulations will be enlarged as the current data on mortality from additional States become available.

#### *Monthly State mortality statistics*

(All rates are per 100,000, except mortality from all causes and infant mortality)

|                                   | 1928 |      |      | Corresponding month for— |      |      |      |
|-----------------------------------|------|------|------|--------------------------|------|------|------|
|                                   | Jan. | Feb. | Mar. | 1927                     | 1926 | 1925 | 1924 |
| ALL CAUSES: ANNUAL RATE PER 1,000 |      |      |      |                          |      |      |      |
| Alabama:                          |      |      |      |                          |      |      |      |
| White.....                        | 10.4 | 10.1 | 10.7 | 8.4                      | 12.4 |      |      |
| Colored.....                      | 14.6 | 17.3 | 17.7 | 13.6                     | 20.5 |      |      |
| Connecticut.....                  | 11.7 | 12.0 | 12.0 | 11.6                     | 15.3 | 13.1 | 13.7 |
| Indiana.....                      | 12.4 | 11.7 | 13.6 | 11.9                     | 15.9 | 14.4 | 13.6 |
| Iowa.....                         |      |      | 12.1 |                          |      |      |      |
| Kansas.....                       | 10.9 |      |      |                          |      |      |      |
| Minnesota.....                    | 9.5  | 9.6  | 9.6  |                          |      |      |      |
| New Jersey.....                   | 11.3 | 12.4 | 13.3 | 12.8                     | 11.8 | 12.6 | 13.2 |
| New York.....                     | 13.6 | 14.2 | 14.4 | 13.7                     | 19.8 | 16.2 | 16.8 |
| Oklahoma.....                     | 10.5 |      |      |                          |      |      |      |
| Pennsylvania.....                 | 12.4 | 13.3 | 13.8 | 13.4                     | 17.5 | 14.5 | 15.1 |
| Tennessee.....                    | 11.8 | 12.9 | 12.3 | 11.9                     |      |      |      |

## Monthly State mortality statistics—Continued

(All rates are per 100,000, except mortality from all causes and infant mortality)

## INFANT MORTALITY: RATE PER 1,000 LIVE BIRTHS

|              | 1928  |       |       | Corresponding month for— |       |      |      |
|--------------|-------|-------|-------|--------------------------|-------|------|------|
|              | Jan.  | Feb.  | Mar.  | 1927                     | 1926  | 1925 | 1924 |
| Alabama:     |       |       |       |                          |       |      |      |
| White        | 80.3  | 78.4  | 77.6  | 56.2                     | 70.2  |      |      |
| Colored      | 126.2 | 118.0 | 108.5 | 76.1                     | 108.0 |      |      |
| Connecticut  | 68.4  | 55.7  | 65.7  | 68.6                     | 89.2  | 85.6 | 89.2 |
| Indiana      | 68.7  | 59.8  | 67.9  | 60.7                     | 77.5  | 76.4 | 67.6 |
| Iowa         |       |       | 66.4  |                          |       |      |      |
| Kansas       | 70.0  |       |       |                          |       |      |      |
| New York     | 68.0  | 72.0  | 73.0  | 69.0                     | 95.0  | 82.0 | 84.0 |
| Oklahoma     | 86.2  |       |       |                          |       |      |      |
| Pennsylvania | 70.6  | 81.0  | 83.0  | 82.0                     | 109.0 | 94.0 |      |

## INFLUENZA (11)

|                |      |       |       |      |       |       |      |
|----------------|------|-------|-------|------|-------|-------|------|
| Alabama:       |      |       |       |      |       |       |      |
| White          | 59.1 | 83.9  | 98.8  | 48.1 | 239.5 |       |      |
| Colored        | 86.0 | 112.8 | 124.0 | 56.6 | 348.3 |       |      |
| Connecticut    | 28.5 | 25.8  | 19.7  | 37.1 | 110.3 | 57.0  | 26.6 |
| Indiana        | 48.1 | 44.0  | 69.3  | 39.6 | 167.0 | 138.1 | 43.8 |
| Iowa           |      |       | 79.5  |      |       |       |      |
| Kansas         | 53.3 |       |       |      |       |       |      |
| Minnesota      | 21.2 | 22.7  | 29.8  |      |       |       |      |
| New Jersey     | 12.6 | 16.1  | 24.7  | 25.1 | 87.3  | 19.3  | 21.4 |
| New York       | 20.0 | 20.7  | 25.3  | 24.9 | 128.7 | 29.1  | 18.3 |
| North Carolina |      |       | 63.7  |      |       |       |      |
| Oklahoma       | 21.8 |       |       |      |       |       |      |
| Pennsylvania   | 37.3 | 38.2  | 51.3  | 46.7 | 143.0 | 65.7  | 72.0 |
| South Carolina | 49.9 | 81.7  | 132.6 | 28.7 |       |       |      |
| Tennessee      | 77.2 | 89.5  | 88.5  | 68.2 |       |       |      |

## TUBERCULOSIS, ALL FORMS (31-37)

|                |       |       |       |       |       |       |       |
|----------------|-------|-------|-------|-------|-------|-------|-------|
| Alabama:       |       |       |       |       |       |       |       |
| White          | 58.1  | 53.9  | 57.5  | 41.5  | 68.7  |       |       |
| Colored        | 136.9 | 179.1 | 162.2 | 163.2 | 182.7 |       |       |
| Connecticut    | 63.5  | 75.1  | 83.9  | 75.7  | 95.9  | 87.0  | 82.3  |
| Indiana        | 67.8  | 67.4  | 88.2  | 82.2  | 100.6 | 95.1  | 97.9  |
| Iowa           |       |       | 38.8  |       |       |       |       |
| Kansas         | 29.5  |       |       |       |       |       |       |
| Minnesota      | 51.5  | 64.7  | 60.1  |       |       |       |       |
| New Jersey     | 65.0  | 70.8  | 78.9  | 92.3  | 101.1 | 96.5  | 86.3  |
| New York       | 66.5  | 82.1  | 82.5  | 85.0  | 109.3 | 103.5 | 106.6 |
| North Carolina |       |       | 86.6  |       |       |       |       |
| Oklahoma       | 59.7  |       |       |       |       |       |       |
| Pennsylvania   | 64.7  | 78.5  | 78.4  | 87.0  | 96.7  | 92.4  | 90.6  |
| South Carolina | 72.6  | 74.9  | 87.2  | 102.1 |       |       |       |
| Tennessee      | 121.9 | 150.9 | 140.7 | 138.8 |       |       |       |

## CANCER, ALL FORMS (43-49)

|                |       |       |       |       |       |       |       |
|----------------|-------|-------|-------|-------|-------|-------|-------|
| Alabama:       |       |       |       |       |       |       |       |
| White          | 46.8  | 36.0  | 44.9  | 50.3  | 49.5  |       |       |
| Colored        | 41.2  | 39.5  | 48.8  | 42.1  | 36.8  |       |       |
| Connecticut    | 113.8 | 106.6 | 106.8 | 113.6 | 102.0 | 107.0 | 98.0  |
| Indiana        | 99.3  | 87.6  | 117.1 | 96.4  | 95.0  | 94.3  | 84.5  |
| Iowa           |       |       | 121.2 |       |       |       |       |
| Kansas         | 95.6  |       |       |       |       |       |       |
| Minnesota      | 112.0 | 94.8  | 115.1 |       |       |       |       |
| New Jersey     | 99.2  | 102.4 | 107.9 | 107.1 | 105.3 | 96.4  | 95.9  |
| New York       | 127.5 | 121.2 | 128.6 | 117.6 | 125.7 | 132.6 | 129.7 |
| Oklahoma       | 58.7  |       |       |       |       |       |       |
| Pennsylvania   | 95.5  | 102.0 | 95.4  | 101.0 | 104.0 | 90.4  | 97.5  |
| South Carolina | 30.3  | 39.2  | 51.2  | 36.4  |       |       |       |
| Tennessee      | 58.8  | 51.3  | 53.2  | 63.5  |       |       |       |

## Monthly State mortality statistics—Continued

(All rates are per 100,000, except mortality from all causes and infant mortality)

## DIABETES (57)

|                     | 1928  |       |       | Corresponding month for— |       |       |       |
|---------------------|-------|-------|-------|--------------------------|-------|-------|-------|
|                     | Jan.  | Feb.  | Mar.  | 1927                     | 1926  | 1925  | 1924  |
| Alabama:            |       |       |       |                          |       |       |       |
| White.....          | 12.8  | 6.0   | 9.8   | 9.5                      | 8.9   | ----- | ----- |
| Colored.....        | 14.5  | 14.1  | 18.5  | 5.3                      | 7.9   | ----- | ----- |
| Iowa.....           | ----- | ----- | 19.9  | -----                    | ----- | ----- | ----- |
| Kansas.....         | 24.4  | ----- | ----- | -----                    | ----- | ----- | ----- |
| Minnesota.....      | 19.9  | 19.4  | 24.7  | -----                    | ----- | ----- | ----- |
| New York.....       | 27.6  | 27.2  | 27.4  | 26.4                     | 34.7  | 25.2  | 26.2  |
| Oklahoma.....       | 12.6  | ----- | ----- | -----                    | ----- | ----- | ----- |
| Pennsylvania.....   | 21.7  | 23.5  | 27.5  | 20.6                     | 23.8  | 20.0  | 14.4  |
| South Carolina..... | 12.6  | 13.5  | 11.4  | 11.5                     | ----- | ----- | ----- |

## DISEASES OF THE NERVOUS SYSTEM AND OF THE ORGANS OF SPECIAL SENSE (70-85)

|                 |       |       |       |       |       |       |       |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Iowa.....       | ----- | ----- | 153.2 | ----- | ----- | ----- | ----- |
| Kansas.....     | 146.9 | ----- | ----- | ----- | ----- | ----- | ----- |
| New Jersey..... | 112.5 | 120.9 | 126.3 | 142.3 | 173.1 | 139.3 | 141.7 |
| New York.....   | 159.1 | 169.8 | 176.1 | 167.5 | 212.8 | 203.0 | 196.7 |
| Oklahoma.....   | 114.5 | ----- | ----- | ----- | ----- | ----- | ----- |

## CEREBRAL HEMORRHAGE, APOPLEXY (74)

|                   |       |       |       |       |       |       |       |
|-------------------|-------|-------|-------|-------|-------|-------|-------|
| Alabama:          |       |       |       |       |       |       |       |
| White.....        | 42.3  | 47.2  | 57.5  | 51.0  | 51.7  | ----- | ----- |
| Colored.....      | 58.1  | 84.6  | 87.1  | 78.9  | 55.2  | ----- | ----- |
| Indiana.....      | 121.5 | 122.5 | (1)   | 107.6 | 121.0 | 100.5 | ----- |
| Iowa.....         | ----- | ----- | 111.5 | ----- | ----- | ----- | ----- |
| Kansas.....       | 114.2 | ----- | ----- | ----- | ----- | ----- | ----- |
| New York.....     | 121.0 | 131.8 | 134.7 | 121.5 | 166.3 | 154.4 | 146.9 |
| Oklahoma.....     | 63.6  | ----- | ----- | ----- | ----- | ----- | ----- |
| Pennsylvania..... | 100.0 | 101.0 | 97.2  | (1)   | (1)   | (1)   | (1)   |

## DISEASES OF THE CIRCULATORY SYSTEM (87-95)

|                     |       |       |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|-------|-------|
| Iowa.....           | ----- | ----- | 310.8 | ----- | ----- | ----- | ----- |
| Kansas.....         | 213.7 | ----- | ----- | ----- | ----- | ----- | ----- |
| New Jersey.....     | 272.7 | 272.4 | 281.6 | 272.6 | 350.7 | 231.0 | 265.8 |
| New York.....       | 375.0 | 399.7 | 369.1 | 356.3 | 496.3 | 383.8 | 396.8 |
| Oklahoma.....       | 90.8  | ----- | ----- | ----- | ----- | ----- | ----- |
| South Carolina..... | 220.5 | 278.2 | 277.9 | 277.0 | ----- | ----- | ----- |

## DISEASES OF THE HEART (87-90)

|                   |                    |                    |                    |                    |                    |                    |       |
|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------|
| Alabama:          |                    |                    |                    |                    |                    |                    |       |
| White.....        | 114.7              | 116.9              | 96.0               | 80.9               | 102.7              | -----              | ----- |
| Colored.....      | 124.8              | 150.9              | 189.9              | 126.3              | 142.0              | -----              | ----- |
| Connecticut.....  | 168.5              | 200.3              | 198.4              | 194.5              | 250.7              | 188.6              | ----- |
| Indiana.....      | <sup>1</sup> 198.5 | <sup>2</sup> 158.1 | <sup>3</sup> 188.0 | <sup>1</sup> 168.2 | <sup>2</sup> 207.3 | <sup>3</sup> 167.4 | ----- |
| Iowa.....         | -----              | -----              | 279.8              | -----              | -----              | -----              | ----- |
| Kansas.....       | 181.6              | -----              | -----              | -----              | -----              | -----              | ----- |
| Minnesota.....    | 156.2              | 165.5              | 160.9              | -----              | -----              | -----              | ----- |
| New York.....     | 328.3              | 345.5              | 323.7              | 306.5              | 433.9              | -----              | ----- |
| Oklahoma.....     | 82.0               | -----              | -----              | -----              | -----              | -----              | ----- |
| Pennsylvania..... | 246.0              | 256.0              | 272.0              | 251.0              | 301.0              | 198.0              | ----- |
| Tennessee.....    | 105.9              | 137.3              | 101.9              | -----              | -----              | -----              | ----- |

<sup>1</sup> Not available.<sup>2</sup> Reported as organic heart.

## Monthly State mortality statistics—Continued

(All rates are per 100,000, except mortality from all causes and infant mortality)

## PNEUMONIA, ALL FORMS (100, 101)

|                | 1928  |       |       | Corresponding month for— |       |       |       |
|----------------|-------|-------|-------|--------------------------|-------|-------|-------|
|                | Jan.  | Feb.  | Mar.  | 1927                     | 1926  | 1925  | 1924  |
| Alabama:       |       |       |       |                          |       |       |       |
| White          | 167.6 | 144.6 | 162.6 | 81.6                     | 164.8 |       |       |
| Colored        | 191.4 | 200.2 | 203.1 | 118.4                    | 286.6 |       |       |
| Connecticut    | 140.8 | 148.6 | 151.7 | 125.4                    | 227.3 | 180.9 | 207.7 |
| Indiana        | 137.0 | 120.1 | 151.3 | 107.6                    | 217.1 | 191.0 | 178.2 |
| Iowa           |       |       | 98.4  |                          |       |       |       |
| Kansas         | 105.9 |       |       |                          |       |       |       |
| Minnesota      | 80.5  | 77.7  | 87.4  |                          |       |       |       |
| New Jersey     | 80.4  | 108.7 | 111.2 | 86.1                     | 220.1 | 101.1 | 104.0 |
| New York       | 120.4 | 131.3 | 152.8 | 120.0                    | 296.2 | 169.5 | 151.2 |
| North Carolina |       |       | 168.7 |                          |       |       |       |
| Oklahoma       | 198.0 |       |       |                          |       |       |       |
| Pennsylvania   | 131.0 | 154.0 | 191.5 | 161.0                    | 295.0 | 200.0 | 271.0 |
| South Carolina | 178.1 | 153.3 | 161.7 | 157.6                    |       |       |       |
| Tennessee      | 163.8 | 163.0 | 162.8 | 129.8                    |       |       |       |

## DISEASES OF THE DIGESTIVE SYSTEM (108-127)

|            |       |       |       |       |       |       |       |
|------------|-------|-------|-------|-------|-------|-------|-------|
| Iowa       |       |       | 65.5  |       |       |       |       |
| Kansas     | 62.9  |       |       |       |       |       |       |
| New Jersey | 147.5 | 158.0 | 160.4 | 162.5 | 162.4 | 159.2 | 167.9 |
| New York   | 69.0  | 86.2  | 79.8  | 68.3  | 80.5  | 89.0  | 96.4  |
| Oklahoma   | 62.1  |       |       |       |       |       |       |

## DIARRHEA AND ENTERITIS UNDER 2 YEARS (113)

|                |      |      |      |      |      |      |      |
|----------------|------|------|------|------|------|------|------|
| Alabama:       |      |      |      |      |      |      |      |
| White          | 11.3 | 6.0  | 5.6  | 7.3  | 6.7  |      |      |
| Colored        | 4.8  | 9.9  | 9.2  | 7.9  | 9.2  |      |      |
| Connecticut    | 9.5  | 4.8  | 3.6  | 7.4  | 10.6 | 9.2  | 14.1 |
| Indiana        | 7.0  | 10.7 | 9.3  | 9.3  | 9.0  | 11.0 | 12.7 |
| Iowa           |      |      | 5.8  |      |      |      |      |
| Kansas         | 7.7  |      |      |      |      |      |      |
| Minnesota      | 10.4 | 8.8  | 10.8 |      |      |      |      |
| New Jersey     | 9.6  | 10.5 | 10.2 | 11.3 | 14.1 | 17.0 | 16.0 |
| New York       | 10.9 | 11.5 | 10.3 | 7.9  | 15.1 | 21.8 | 19.9 |
| North Carolina |      |      | 10.0 |      |      |      |      |
| Oklahoma       | 11.2 |      |      |      |      |      |      |
| Pennsylvania   | 10.7 | 19.0 | 16.1 | 17.0 | 19.7 | 24.0 | 22.6 |
| South Carolina | 3.8  | 8.8  | 8.2  | 10.8 |      |      |      |
| Tennessee      | 4.7  | 3.5  | 4.7  | 6.6  |      |      |      |

## NEPHRITIS (128, 129)

|                |       |       |       |       |       |       |       |
|----------------|-------|-------|-------|-------|-------|-------|-------|
| Alabama:       |       |       |       |       |       |       |       |
| White          | 74.7  | 66.7  | 75.7  | 59.8  | 73.9  |       |       |
| Colored        | 92.1  | 90.2  | 91.0  | 101.3 | 97.3  |       |       |
| Connecticut    |       |       | 71.5  |       |       |       |       |
| Indiana        | 70.4  | 86.8  | 85.6  | 93.4  | 94.2  | 91.3  |       |
| Iowa           |       |       | 83.8  |       |       |       |       |
| Kansas         | 85.3  |       |       |       |       |       |       |
| Minnesota      | 66.2  | 62.4  | 54.5  |       |       |       |       |
| New Jersey     | 108.5 | 118.6 | 124.8 | 107.7 | 125.7 | 102.9 | 118.7 |
| New York       | 121.8 | 117.6 | 120.0 | 120.2 | 147.8 | 138.7 | 126.8 |
| Oklahoma       | 64.1  |       |       |       |       |       |       |
| Pennsylvania   | 117.0 | 122.0 | 115.0 | 114.0 | 141.0 | 118.0 | 128.0 |
| South Carolina | 83.4  | 99.9  | 108.6 | 93.2  |       |       |       |

1 Infantile diarrhea excepted.

2 Reported as diarrhea of children.

3 Reported as infantile diarrhea.

4 Reported as intestinal diseases of children under 1 year.

5 Reported as chronic nephritis.

6 Reported as Bright's disease.

7 Reported as nephritis.

8 Reported as kidney diseases.



## Monthly State mortality statistics—Continued

(All rates are per 100,000, except mortality from all causes and infant mortality)

## PUERPERAL STATE (143-150)

|                   | 1928              |                   |                   | Corresponding month for— |                   |                   |                   |
|-------------------|-------------------|-------------------|-------------------|--------------------------|-------------------|-------------------|-------------------|
|                   | Jan.              | Feb.              | Mar.              | 1927                     | 1926              | 1925              | 1924              |
| Alabama:          |                   |                   |                   |                          |                   |                   |                   |
| White.....        |                   | <sup>1</sup> 21.0 | <sup>1</sup> 20.3 | <sup>1</sup> 14.6        | <sup>1</sup> 19.2 |                   |                   |
| Colored.....      |                   | <sup>1</sup> 16.9 | <sup>1</sup> 25.1 | <sup>1</sup> 23.7        | <sup>1</sup> 39.4 |                   |                   |
| Connecticut.....  | <sup>1</sup> 9.5  | <sup>1</sup> 8.9  | <sup>1</sup> 13.1 | <sup>1</sup> 8.2         | <sup>1</sup> 21.9 | <sup>1</sup> 9.2  | <sup>1</sup> 10.2 |
| Indiana.....      | <sup>1</sup> 11.9 | <sup>1</sup> 8.7  | <sup>1</sup> 11.5 | <sup>1</sup> 14.2        | <sup>1</sup> 17.0 | <sup>1</sup> 14.5 | <sup>1</sup> 9.5  |
| Iowa.....         |                   |                   | 11.2              |                          |                   |                   |                   |
| Kansas.....       | <sup>1</sup> 7.1  |                   |                   |                          |                   |                   |                   |
| Minnesota.....    | <sup>1</sup> 9.5  | <sup>1</sup> 10.2 | <sup>1</sup> 14.3 |                          |                   |                   |                   |
| New York.....     |                   | 13.3              | 12.0              | 13.1                     | 13.3              | 14.0              | 14.6              |
| Oklahoma.....     | 11.6              |                   |                   |                          |                   |                   |                   |
| Pennsylvania..... | <sup>1</sup> 5.3  | <sup>1</sup> 5.5  | <sup>1</sup> 6.6  | <sup>1</sup> 6.9         | <sup>1</sup> 7.9  | <sup>1</sup> 7.2  |                   |
| Tennessee.....    | <sup>1</sup> 6.1  | <sup>1</sup> 4.5  | <sup>1</sup> 7.1  | <sup>1</sup> 7.6         |                   |                   |                   |

## CONGENITAL MALFORMATION AND DISEASES OF EARLY INFANCY (159-163)

|                   |                   |                   |                   |                   |                   |                   |      |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| Alabama:          |                   |                   |                   |                   |                   |                   |      |
| White.....        | 67.2              | 70.4              | 69.4              | 83.1              | 84.3              |                   |      |
| Colored.....      | 69.0              | 98.7              | 92.3              | 73.7              | 74.9              |                   |      |
| Iowa.....         |                   |                   | 61.1              |                   |                   |                   |      |
| Kansas.....       | 53.9              |                   |                   |                   |                   |                   |      |
| New York.....     | 65.2              | 70.2              | 69.4              | 70.3              | 84.2              | 86.9              | 90.1 |
| Oklahoma.....     | 86.9              |                   |                   |                   |                   |                   |      |
| Pennsylvania..... | <sup>1</sup> 34.9 | <sup>1</sup> 37.6 | <sup>1</sup> 35.1 | <sup>1</sup> 37.6 | <sup>1</sup> 42.2 | <sup>1</sup> 39.0 |      |

## AUTOMOBILE ACCIDENTS (188c)

|                     |      |      |      |      |      |      |      |
|---------------------|------|------|------|------|------|------|------|
| Alabama:            |      |      |      |      |      |      |      |
| White.....          | 14.3 | 14.2 | 15.4 | 8.0  | 10.3 |      |      |
| Colored.....        | 10.9 | 7.0  | 13.2 | 13.2 | 9.0  |      |      |
| Iowa.....           |      |      | 12.1 |      |      |      |      |
| Kansas.....         | 10.9 |      |      |      |      |      |      |
| Minnesota.....      | 8.7  | 8.3  | 2.2  |      |      |      |      |
| New Jersey.....     | 12.9 | 17.1 | 28.0 | 15.8 | 16.3 |      |      |
| New York.....       | 17.0 | 15.3 | 15.4 | 14.1 | 11.1 | 13.8 | 14.1 |
| North Carolina..... |      |      | 8.8  |      |      |      |      |
| Oklahoma.....       | 8.7  |      |      |      |      |      |      |
| Pennsylvania.....   | 13.5 | 12.2 | 11.8 | 14.9 | 11.2 | 10.9 | 8.9  |
| South Carolina..... | 11.4 | 10.8 | 11.4 | 9.6  |      |      |      |
| Tennessee.....      | 13.2 | 10.6 | 9.4  |      |      |      |      |

<sup>1</sup> Rate per 1,000 live births.<sup>2</sup> Puerperal state.<sup>3</sup> Reported as puerperal diseases.<sup>4</sup> Reported as puerperal septicemia.<sup>5</sup> Rate per 1,000 total births.

## COURT DECISION RELATING TO PUBLIC HEALTH

*Issuance of permit for conduct and maintenance of stable.*—(California First District Court of Appeal, Division 2; *Ryan v. Andriano et al.*, 266 P. 831; decided April 19, 1928.) The plaintiff operated a stable under a permit issued in the name of the person from whom he had purchased the stable. On application to the board of supervisors of the city of San Francisco for permission to make additional improvements, it was noticed that the permit was not in the plaintiff's name, and he was instructed first to procure such a permit. Application for a permit was made, but protests against the granting of the same were received by the board, and finally, after two years,

the application was denied. During the pendency of the application the board did not specify objectionable features of the stable and did not fix a time within which the plaintiff was required to remove same. The stable ordinance of the city required a permit for the maintenance of a stable, and also contained the following provisions:

SEC. 4. The board of supervisors shall not refuse a permit for the maintenance of a stable in a building now constructed and maintained as a stable except upon satisfactory evidence that such stable is conducted in an insanitary manner and the failure to remove the objection to the manner of its maintenance within a time to be prescribed by the board of supervisors.

SEC. 6. No permit shall be refused or revoked by the board of supervisors except after a full hearing, and then only in the exercise of a sound and reasonable discretion by said board.

The plaintiff's stable was in operation when the said ordinance was passed. Upon the board's denial of his application, the plaintiff sought by mandamus to compel the granting of a permit. The appellate court reversed the lower court's judgment denying a writ of mandamus, and held that the plaintiff's application for a stable permit could not be denied without opportunity being first given him to remove objections to be specified by the board within a time to be also specified by the board, as provided in section 4 of the ordinance.

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## PUBLIC HEALTH ENGINEERING ABSTRACTS

Tests with the Activated Sludge Method of Sewage Treatment at Waldenburg (Silesia). G. Jordan. *Gesundh. Ign.* 51, 150-6 (1928). (Abstract by Wayne L. Denman in *Chemical Abstracts*, vol. 22, No. 9, May 10, 1928, p. 1641.)

"The purification plant used in this work consists essentially of a concrete basin which is alternately divided by baffles. Circulation of the sewage is accomplished by means of paddle wheels. The plant handles a mixture of domestic and industrial sewage. The industrial sewage amounts to about 8 per cent of the domestic sewage. Three series of tests were made to determine the normal and high rates of treatment. These rates were 2, 1.5, and 1.1 per second. At 1.1 per second a good sludge is obtained. It is in large clumps and its volume is reduced to 25 per cent in 15 minutes. Its water content is 98.5 per cent. At 2 per second very poor results were obtained. The sludge was of a fine structure, and in 15 minutes its volume was 80-90 per cent, with a water content of 99.5 per cent. At a rate of 1.5 per second better results were obtained but were not up to those obtained at 1.1 per second. The effect of suspended matter such as finely powdered coal was tried and found to be very harmful, but the trouble vanishes as soon as the sewage clears. The addition of a substance such as  $Al_2(SO_4)_3$  will overcome this difficulty. The action of phenol was noted, as the industrial sewage contained a small quantity from coke plants. It was found that phenol present in considerable amounts did little if any harm. The effluent was clear and had a slight earthy odor. Sewage consisting of 10 per cent phenol sewage (13 days at 457 p. p. m. phenol and 21 days at 191 p. p. m. phenol) may be satisfactorily treated by the activated sludge process. A very high bacterial removal is obtained. For a plant of this type exact and rigorous attention to details must be observed if the operation is to be successful."

**Seeding New Tanks.** Willem Rudolfs. Report of the Department of Sewage Disposal of the New Jersey Agriculture Experiment Station for year ending June 30, 1927, pp. 284-294. (Abstract by W. L. Havens.)

The difficulty sometimes experienced in starting the operation of a new tank was deemed of sufficient importance to warrant laboratory experiments in order to determine what could be substituted for ripe sludge when the latter was not available. Definite quantities of fresh solids were mixed with ripe sludge, horse manure, cow manure, and muck from a creek and results compared with fresh solids seeded with ripe Imhoff sludge. It was found that neither manure nor muck is as effective for seeding as ripe sludge. Muck was about half as good as ripe sludge and horse and cow manure still less. If sludge from a polluted stream is available for seeding, it is to be favored. Seeding with horse manure and additions of lime are beneficial, but still inferior to seeding with ripe sludge. Additions of lime to fresh solids when ripe sludge is present for seeding keeps floating solids down.

**Sanitary Districts in Missouri.** Anon. *The American City*, vol. 38, No. 4, April 1928, p. 125. (Abstract by J. B. Harrington.)

In March, 1927, the State law of Missouri was reframed to provide for the construction of sanitary sewers in all suburban districts of any county having a population of over 75,000 people. The procedure to be followed requires that a petition signed by 100 property owners must be submitted to the circuit court. The circuit judge, upon favorable decision, appoints three supervisors, who organize and appoint a secretary, an attorney, and an engineer, and levy a tax not to exceed 10 cents per 100 square feet of area for preliminary work.

**Studies on the Decomposition of Cellulose.** H. Heukelekian. Report of the Department of Sewage Disposal of the New Jersey Agricultural Experiment Station for year ending June 30, 1927, pp. 272-284. (Abstract by W. L. Havens.)

Experiments were carried on during the past year in an effort to study the fundamental processes of sludge digestion, not from the standpoint of changes in bacterial life, but as measured by the decomposition of organic material. Two methods were employed—first, following the changes in the cellulose content of digesting material, and, second, adding cellulosic substance to ripe sludge and following the changes induced. The following conclusions were reached as a result of these experiments: (1) The native cellulose of fresh solids as well as cellulose added to ripe sludge in the form of filter paper decomposes rapidly; (2) the decomposition of cellulose takes place in the early part of the digestion, namely, the first three weeks; (3) the decomposition of cellulose gives rise to acidity, which retards the general course of the digestion; (4) cellulose decomposition takes place under acid conditions, but the addition of lime accelerates the rate of decomposition; (5) the decomposition of cellulose is accompanied by the production of gas, the volume of which is much smaller than that produced in the decomposition of an equal amount of mixed organic matter in fresh solids; (6) there is a lag of 5 or 6 days before the decomposition of cellulose starts; (7) the rapidity of decomposition of cellulosic substances is correlated with their cellulose content; (8) cellulose content of the solids collected from the inlet end of an Imhoff tank is higher than that from the outlet end; (9) the digestion of the material from the inlet end was similar to the type of digestion obtained from the mixture of solids. The material from the outlet end had a shorter period of acid digestion, lower acidity, and a higher alkalinity and higher ash content than the material from the inlet end.

**Design and Operation of Storm Tanks.** C. Chamberlain. *The Canadian Engineer*, vol. 54, No. 1, January 3, 1928, pp. 101-103. (Abstract by R. E. Thompson.)

The storm water at the York Township plant flows into a small creek, and it was therefore considered necessary to provide for more than the usual "three times the dry weather flow." As this condition was expected to last for only a few years, two tanks, 77 feet square, with sloping bottoms and equipped with Dorr scrapers, were constructed which could be used without alteration for treatment of domestic sewage in the future. The material collected is of two types—(1) coarse material such as stones, cinders, and brick fragments; and (2) material varying from fine sand to mud, containing a certain amount of organic matter. The former material interfered with the operation of the diaphragm pump used for removing the sludge, and the plant has now been rearranged somewhat to provide an extra grit chamber for removal of this coarse material. The fine material is removed from the tanks with a Stereophagus pump and deposited in sand beds. After being dried, it is utilized for fill around the beds. The streets are unpaved and a great deal of material is carried into the sewers during storm periods. Following one storm of  $2\frac{1}{2}$  hours' duration, 175 cubic yards of material was removed from the tank and 10 cubic yards from the additional grit chambers.

**Returned Sludge in Water Purification.** A. W. Bull. *Water Works*, vol. 67, No. 3, March, 1928, p. 112. (Abstract by C. R. Cox.)

This is a summary of experiments made at Columbus and Pittsburgh to ascertain the effect of adding settled sludge to water dosed with lime and soda ash, such as is the practice at Benton Harbor, Mich., Piqua, Ohio, and Hinsdale and Springfield, Ill. Results indicate that the addition of sludge increases the speed of the softening reaction to a marked extent, although the hardness could not be reduced much below 100 p. p. m. by even larger amounts of added sludge. Thus, 19 hours' agitation of the treated water was necessary to produce the same softening reaction secured by 2 hours' agitation with the same chemical doses plus 50 c. c. of sludge per gallon, or by 1 hours' agitation with 100 c. c. of sludge. Best results were secured at Columbus with initial concentrations of 15,000 p. p. m. suspended solids, whereas at Pittsburgh 7,100 p. p. m. was the best initial concentration. The beneficial results "are due to either a catalytic speeding up of the reaction or, more probably, to a reduction in supersaturation." Settled sludge may be easily returned to raw water through the use of continuously cleaned sedimentation basins, such as the Dorr clarifier.

**Reservoir Protection.** Carl Wilson. *Water Works*, vol. 67, No. 2, February, 1928, p. 50. (Abstract by H. B. Hommon.)

**Storage reservoirs:** There are no communities on the tributary watersheds; and for control over pollution from landowners and other sources the city enforces the State laws regarding pollution of domestic waters. All reservoirs are fenced and patrolled, and hunting, fishing, boating, bathing, and picnicking are prohibited inside the fenced areas. Grazing is prohibited within half a mile of the reservoirs, and leaching cesspools and earth privies are not permitted closer than 250 feet.

**Distribution reservoirs:** These reservoirs are protected by (1) strong wire fencing that practically excludes the public; (2) resident patrolmen; (3) bypassing storm water and carrying domestic sewage outside the drainage basins; (4) prohibiting leaching cesspools and privy vaults on the land draining to the reservoirs; and (5) requiring that domestic animals, including chickens, be kept 100 feet away from the water.

**Chlorination:** All water is chlorinated as it leaves the distribution reservoirs. No other purification is considered necessary.

**Abolition of Cross Connections Causes Lively Discussion.** Anon. *Engineering News-Record*, vol. 100, No. 12, March 22, 1928, pp. 488-490. (Abstract by C. R. Cox.)



A special committee of the New England Water Works Association reported upon cross connections at the March 14, 1928, meeting. The report was in the nature of a compromise in which the details of the problems involved were discussed in a report of 45 pages, including 25 pages of appendices.

Subcommittee No. 1 on fire hazards recorded 12 cases where fires broke out simultaneously with the interruption of the public water supplies. This committee emphasizes the fact that the New York State labor law permits double the number of employees in buildings equipped with sprinkling systems supplied from two individual sources. The committee concluded that secondary supplies of sufficient capacity were impracticable in cost unless ponds or rivers were utilized and that cross connections should be used to combine the two supplies for common fire-protection systems.

Subcommittee No. 2 on health hazards cited 22 epidemics due to cross connections containing a single gate or check valve. The committee reviewed the position of the public health authorities by stating that, although it was necessary seriously to consider economical phases of fire losses, the saving of life rather than money must be the predominant consideration. This committee stated that the courts had placed responsibilities upon the municipalities for water-borne epidemics when such are due to a negligence in design, installation, operation, or inspections of cross connections. The responsibility also rests upon State authorities, although such responsibility is moral rather than legal.

The committee, therefore, compared the relative fire and health hazards by weighing the economic losses resulting from the 12 fires mentioned above in contrast to the intangible as well as economic losses of 8,028 cases of typhoid fever with 26 deaths and more than 1,000 cases of enteric disturbances occurring with losses by death and disability running into the millions of dollars. They therefore concluded that cross connections with single check valves were too hazardous and that even the best installations of double check valves may fail from lack of inspection. Statistics are given regarding the frequency that leaky valves were found during tests at New Bedford, Mass., and in Connecticut.

In general the committee feels that double check valves of the latest improved type, properly installed and adequately safeguarded, furnish the best protection of any device now known. It is hoped that recent installations of these valves will provide data upon the actual effectiveness of these devices. The committee feels that State regulations should be promulgated, but that our responsibility should rest upon the municipalities wherein cross connections are maintained. The report recommends cooperative inspection of double check valves by municipal and State authorities and by the owners and the insurance companies at quarterly intervals.

The final resolutions recommended by the committee were not adopted by the association, pending the printing of the full report in the June issue of the *Journal* of the association and a detailed study of the report by the members.

### DEATHS DURING WEEK ENDED JUNE 16, 1928

*Summary of information received by telegraph from industrial insurance companies for the week ended June 16, 1928, and corresponding week of 1927. (From the Weekly Health Index, June 20, 1928, issued by the Bureau of the Census, Department of Commerce)*

|  | Week ended<br>June 16, 1928 | Corresponding<br>week, 1927 |
|--|-----------------------------|-----------------------------|
| Policies in force.....                                   | 65, 735, 862                | 62, 918, 546                |
| Number of death claims.....                              | 12, 187                     | 11, 891                     |
| Death claims per 1,000 policies in force, annual rate... | 9. 7                        | 9. 9                        |



Deaths from all causes in certain large cities of the United States during the week ended June 16, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927. (From the Weekly Health Index, June 20, 1928, issued by the Bureau of the Census, Department of Commerce)

| City                          | Week ended June 16, 1928 |                         | Annual death rate per 1,000, corresponding week, 1927 | Deaths under 1 year      |                          | Infant mortality rate, week ended June 16, 1928 <sup>1</sup> |
|-------------------------------|--------------------------|-------------------------|---|--------------------------|--------------------------|--|
|                               | Total deaths             | Death rate <sup>1</sup> |   | Week ended June 16, 1928 | Corresponding week, 1927 |  |
| Total (60 cities).....        | 7,160                    | 12.2                    | 11.6  | 721                      | 738                      | 58   |
| Akron.....                    | 46                       | .....                   | .....   | 9                        | 3                        | 98   |
| Albany <sup>1</sup> .....     | 37                       | 16.1                    | 10.9  | 4                        | 3                        | 82   |
| Atlanta.....                  | 78                       | 16.0                    | 13.2  | 11                       | 11                       | .....  |
| White.....                    | 38                       | .....                   | 9.2   | 6                        | 7                        | .....  |
| Colored.....                  | 40                       | ( <sup>2</sup> )        | 22.6  | 5                        | 4                        | .....  |
| Baltimore <sup>2</sup> .....  | 185                      | 11.6                    | 12.2  | 10                       | 22                       | 82   |
| White.....                    | 139                      | .....                   | 10.1  | 6                        | 13                       | 24   |
| Colored.....                  | 46                       | ( <sup>2</sup> )        | 24.7  | 4                        | 9                        | 63   |
| Birmingham.....               | 76                       | 17.6                    | 14.9  | 10                       | 8                        | 86   |
| White.....                    | 41                       | .....                   | 11.0  | 4                        | 4                        | 55   |
| Colored.....                  | 34                       | ( <sup>2</sup> )        | 20.9  | 6                        | 4                        | 135  |
| Boston.....                   | 199                      | 13.0                    | 14.1  | 23                       | 36                       | 66   |
| Bridgeport.....               | 28                       | .....                   | .....   | 2                        | 1                        | 37   |
| Buffalo.....                  | 138                      | 13.0                    | 12.5  | 17                       | 17                       | 73   |
| Cambridge.....                | 23                       | 9.6                     | 8.8   | 2                        | 1                        | 26   |
| Camden.....                   | 29                       | 11.2                    | 12.1  | 3                        | 1                        | 48   |
| Canton.....                   | 23                       | 10.3                    | 11.5  | 4                        | 4                        | 95   |
| Chicago <sup>1</sup> .....    | 760                      | 12.6                    | 11.3  | 68                       | 77                       | 59   |
| Cincinnati.....               | 136                      | 17.2                    | 14.0  | 9                        | 8                        | 54   |
| Cleveland.....                | 189                      | 9.3                     | 10.1  | 17                       | 13                       | 46   |
| Columbus.....                 | 87                       | 15.3                    | 12.0  | 6                        | 3                        | 56   |
| Dallas.....                   | 42                       | 10.1                    | 9.6   | 5                        | 8                        | .....  |
| White.....                    | 31                       | .....                   | 8.8   | 5                        | 6                        | .....  |
| Colored.....                  | 11                       | ( <sup>2</sup> )        | 15.2  | 0                        | 2                        | .....  |
| Denver.....                   | 78                       | 13.9                    | 15.5  | 8                        | 7                        | .....  |
| Des Moines.....               | 28                       | 9.6                     | 11.9  | 4                        | 7                        | 66   |
| Detroit.....                  | 330                      | 12.5                    | 10.7  | 44                       | 51                       | 68   |
| Duluth.....                   | 17                       | 7.6                     | 8.6   | 1                        | 1                        | 23   |
| El Paso.....                  | 27                       | 12.0                    | 14.7  | 8                        | 3                        | .....  |
| Erie.....                     | 17                       | .....                   | .....   | 1                        | 2                        | 21   |
| Fall River <sup>1</sup> ..... | 26                       | 9.7                     | 10.2  | 1                        | 2                        | 117  |
| Flint.....                    | 25                       | 8.8                     | 9.9   | 4                        | 6                        | 61   |
| Fort Worth.....               | 40                       | 12.4                    | 10.2  | 4                        | 5                        | .....  |
| White.....                    | 33                       | .....                   | 9.1   | 3                        | 3                        | .....  |
| Colored.....                  | 7                        | ( <sup>2</sup> )        | 18.6  | 1                        | 2                        | .....  |
| Grand Rapids.....             | 21                       | 6.7                     | 10.0  | 2                        | 1                        | 30   |
| Houston.....                  | 80                       | .....                   | .....   | 13                       | 3                        | .....  |
| White.....                    | 51                       | .....                   | .....   | 9                        | 2                        | .....  |
| Colored.....                  | 29                       | ( <sup>2</sup> )        | .....   | 4                        | 1                        | .....  |
| Indianapolis.....             | 103                      | 14.1                    | 12.0  | 8                        | 4                        | 61   |
| White.....                    | 63                       | .....                   | 9.8   | 7                        | 1                        | 61   |
| Colored.....                  | 20                       | ( <sup>2</sup> )        | 27.9  | 1                        | 3                        | 61   |
| Jersey City.....              | 63                       | 10.1                    | 11.4  | 8                        | 8                        | 60   |
| Kansas City, Kans.....        | 19                       | 8.4                     | 15.1  | 0                        | 4                        | 0  |
| White.....                    | 14                       | .....                   | 15.7  | 0                        | 3                        | 0  |
| Colored.....                  | 5                        | ( <sup>2</sup> )        | 12.3  | 0                        | 1                        | 0  |
| Kansas City, Mo.....          | 119                      | 15.9                    | 10.8  | 16                       | 6                        | 113  |
| Knoxville.....                | 13                       | 6.4                     | 11.2  | 1                        | 3                        | 22   |
| White.....                    | 7                        | .....                   | 9.9   | 1                        | 3                        | 24   |
| Colored.....                  | 6                        | ( <sup>2</sup> )        | 21.4  | 0                        | 0                        | 0  |
| Los Angeles.....              | 228                      | .....                   | .....   | 24                       | 21                       | 69   |
| Louisville.....               | 51                       | 12.9                    | 9.6   | 6                        | 1                        | 50   |
| White.....                    | 62                       | .....                   | 7.5   | 1                        | 1                        | 10   |
| Colored.....                  | 19                       | ( <sup>2</sup> )        | 21.2  | 5                        | 0                        | 344  |
| Lowell.....                   | 23                       | 10.9                    | 13.7  | 2                        | 4                        | 42   |
| Lynn.....                     | 27                       | 13.4                    | 5.5   | 3                        | 1                        | 76   |
| Memphis.....                  | 66                       | 18.1                    | 19.9  | 8                        | 9                        | 94   |
| White.....                    | 34                       | .....                   | 15.3  | 3                        | 4                        | 56   |
| Colored.....                  | 32                       | ( <sup>2</sup> )        | 25.5  | 5                        | 5                        | 157  |
| Milwaukee.....                | 110                      | 10.6                    | 8.6   | 18                       | 12                       | 80   |
| Minneapolis.....              | 70                       | 8.0                     | 11.2  | 8                        | 9                        | 48   |
| Nashville.....                | 60                       | 22.6                    | 16.6  | 9                        | 4                        | 142  |
| White.....                    | 36                       | .....                   | 13.7  | 9                        | 2                        | 102  |
| Colored.....                  | 24                       | ( <sup>2</sup> )        | 24.1  | 0                        | 2                        | 0  |

<sup>1</sup> Annual rate per 1,000 population.

<sup>2</sup> Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.

<sup>3</sup> Deaths for week ended Friday, June 15, 1928.

<sup>4</sup> In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 35; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

Deaths from all causes in certain large cities of the United States during the week ended June 16, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927. (From the Weekly Health Index, June 20, 1928, issued by the Bureau of the Census, Department of Commerce)—Continued

| City                        | Week ended June 16, 1928 |                  | Annual death rate per 1,000, corresponding week, 1927 | Deaths under 1 year      |                          | Infant mortality rate, week ended June 16, 1928 |
|-----------------------------|--------------------------|------------------|---|--------------------------|--------------------------|---|
|                             | Total deaths             | Death rate       |   | Week ended June 16, 1928 | Corresponding week, 1927 |   |
| New Bedford                 | 30                       | 13.1             | 6.1   | 5                        | 2                        | 108   |
| New Haven                   | 38                       | 10.6             | 9.6   | 5                        | 2                        | 71  |
| New Orleans                 | 122                      | 14.9             | 18.6  | 10                       | 30                       | 48  |
| White                       | 65                       |                  | 14.4  | 1                        | 15                       | 7   |
| Colored                     | 57                       | ( <sup>1</sup> ) | 30.3  | 9                        | 15                       | 131   |
| New York                    | 1,420                    | 12.3             | 11.4  | 144                      | 146                      | 58  |
| Bronx Borough               | 183                      | 10.1             | 8.8   | 9                        | 13                       | 27  |
| Brooklyn Borough            | 464                      | 10.5             | 10.0  | 54                       | 60                       | 54  |
| Manhattan Borough           | 614                      | 18.3             | 15.1  | 69                       | 56                       | 82  |
| Queens Borough              | 120                      | 7.3              | 9.0   | 11                       | 13                       | 44  |
| Richmond Borough            | 39                       | 13.5             | 16.0  | 1                        | 4                        | 18  |
| Newark, N. J.               | 109                      | 12.0             | 12.4  | 8                        | 15                       | 41  |
| Oakland                     | 52                       | 9.9              | 9.0   | 2                        | 5                        | 22  |
| Oklahoma City               | 22                       |                  |   | 3                        | 2                        |   |
| Omaha                       | 51                       | 12.0             | 13.1  | 5                        | 6                        | 58  |
| Paterson                    | 40                       | 14.4             | 12.3  | 3                        | 6                        | 52  |
| Philadelphia                | 455                      | 11.5             | 11.4  | 48                       | 41                       | 65  |
| Pittsburgh                  | 166                      | 12.9             | 12.8  | 16                       | 17                       | 52  |
| Portland, Oreg.             | 52                       |                  |   | 4                        | 2                        | 43  |
| Providence                  | 78                       | 14.2             | 8.9   | 11                       | 4                        | 96  |
| Richmond                    | 53                       | 14.3             | 13.3  | 9                        | 3                        | 118   |
| White                       | 34                       |                  | 9.6   | 3                        | 1                        | 61  |
| Colored                     | 19                       | ( <sup>1</sup> ) | 22.5  | 6                        | 2                        | 220   |
| Rochester                   | 75                       | 11.9             | 11.1  | 6                        | 12                       | 49  |
| St. Louis                   | 192                      | 11.8             | 12.2  | 8                        | 16                       | 27  |
| St. Paul                    | 60                       | 12.4             | 8.1   | 4                        | 2                        | 38  |
| Salt Lake City <sup>2</sup> | 37                       | 14.0             | 10.8  | 4                        | 1                        | 65  |
| San Antonio                 | 65                       | 15.6             | 11.3  | 15                       | 4                        |   |
| San Diego                   | 50                       | 21.8             | 13.1  | 4                        | 5                        | 76  |
| San Francisco               | 156                      | 13.9             | 13.6  | 7                        | 8                        | 44  |
| Schenectady                 | 14                       | 7.8              | 8.4   | 4                        | 1                        | 125   |
| Seattle                     | 67                       | 9.1              | 8.8   | 4                        | 9                        | 41  |
| Somerville                  | 17                       | 8.7              | 6.2   | 2                        | 0                        | 69  |
| Spokane                     | 29                       | 13.9             | 14.4  | 3                        | 1                        | 77  |
| Springfield, Mass.          | 25                       | 8.7              | 9.9   | 1                        | 4                        | 16  |
| Syracuse                    | 53                       | 13.9             | 13.5  | 6                        | 6                        | 73  |
| Tacoma                      | 23                       | 10.9             | 11.2  | 0                        | 1                        | 0   |
| Toledo                      | 50                       | 8.3              | 11.1  | 4                        | 3                        | 38  |
| Trenton                     | 49                       | 15.0             | 14.5  | 5                        | 3                        | 85  |
| Utica                       | 34                       | 17.1             | 15.1  | 0                        | 3                        | 0   |
| Washington, D. C.           | 116                      | 11.0             | 12.2  | 10                       | 7                        | 57  |
| White                       | 66                       |                  | 9.6   | 4                        | 0                        | 33  |
| Colored                     | 50                       | ( <sup>1</sup> ) | 19.9  | 6                        | 7                        | 111   |
| Waterbury                   | 21                       |                  |   | 3                        | 2                        | 87  |
| Wilmington, Del.            | 17                       | 6.9              | 7.4   | 2                        | 0                        | 63  |
| Worcester                   | 41                       | 10.8             | 13.9  | 0                        | 6                        | 73  |
| Yonkers                     | 22                       | 9.5              | 9.2   | 3                        | 3                        | 68  |
| Youngstown                  | 26                       | 7.8              | 6.5   | 2                        | 4                        | 27  |

<sup>1</sup> Deaths for week ended Friday, June 15, 1928.

<sup>2</sup> In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

# PREVALENCE OF DISEASE

*No health department, State or local can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring*

## UNITED STATES

### CURRENT WEEKLY STATE REPORTS

These reports are preliminary and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended June 23, 1928, and June 25, 1927

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended June 23, 1928, and June 25, 1927

| Division and State                | Diphtheria               |                          | Influenza                |                          | Measles                  |                          | Meningococcus meningitis |                          |
|-----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                                   | Week ended June 23, 1928 | Week ended June 25, 1927 | Week ended June 23, 1928 | Week ended June 25, 1927 | Week ended June 23, 1928 | Week ended June 25, 1927 | Week ended June 23, 1928 | Week ended June 25, 1927 |
| <b>New England States:</b>        |                          |                          |                          |                          |                          |                          |                          |                          |
| Maine.....                        | 3                        | 2                        | 31                       | 3                        | 51                       | 55                       | 0                        | 0                        |
| New Hampshire.....                |                          |                          |                          |                          | 45                       |                          | 0                        |                          |
| Vermont.....                      |                          | 2                        |                          |                          | 34                       | 39                       | 0                        | 0                        |
| Massachusetts.....                | 51                       | 84                       | 7                        | 9                        | 614                      | 351                      | 3                        | 0                        |
| Rhode Island.....                 | 9                        | 15                       |                          |                          | 195                      | 2                        | 0                        | 0                        |
| Connecticut.....                  | 15                       | 34                       | 2                        |                          | 293                      | 68                       | 1                        | 0                        |
| <b>Middle Atlantic States:</b>    |                          |                          |                          |                          |                          |                          |                          |                          |
| New York.....                     | 299                      | 487                      | 118                      | 19                       | 2,509                    | 805                      | 17                       | 6                        |
| New Jersey.....                   | 143                      | 91                       | 18                       | 3                        | 989                      | 38                       | 4                        | 3                        |
| Pennsylvania.....                 | 114                      | 149                      |                          |                          | 2,280                    | 449                      | 9                        | 2                        |
| <b>East North Central States:</b> |                          |                          |                          |                          |                          |                          |                          |                          |
| Ohio.....                         | 27                       |                          | 23                       |                          | 700                      |                          | 2                        |                          |
| Indiana.....                      | 20                       | 22                       | 5                        | 2                        | 230                      | 68                       | 0                        | 0                        |
| Illinois.....                     | 140                      | 112                      | 21                       | 6                        | 186                      | 416                      | 3                        | 8                        |
| Michigan.....                     | 108                      | 88                       | 3                        | 1                        | 770                      | 106                      | 7                        | 2                        |
| Wisconsin.....                    | 18                       | 32                       | 50                       | 25                       | 64                       | 710                      | 1                        | 4                        |
| <b>West North Central States:</b> |                          |                          |                          |                          |                          |                          |                          |                          |
| Minnesota.....                    | 44                       | 12                       |                          | 2                        | 32                       | 62                       | 1                        | 2                        |
| Iowa.....                         | 3                        |                          |                          |                          |                          |                          | 1                        |                          |
| Missouri.....                     | 27                       | 22                       | 4                        |                          | 197                      | 67                       | 6                        | 0                        |
| North Dakota.....                 | 1                        | 2                        | 2                        |                          | 8                        | 30                       | 0                        | 0                        |
| South Dakota.....                 |                          | 1                        |                          |                          | 6                        | 6                        | 0                        | 0                        |
| Nebraska.....                     | 3                        | 12                       |                          |                          | 28                       | 60                       | 0                        | 0                        |
| Kansas.....                       | 9                        | 14                       | 1                        | 2                        | 50                       | 257                      | 0                        | 1                        |
| <b>South Atlantic States:</b>     |                          |                          |                          |                          |                          |                          |                          |                          |
| Delaware.....                     |                          | 2                        |                          |                          | 18                       | 6                        | 0                        | 0                        |
| Maryland.....                     | 31                       | 52                       | 5                        |                          | 267                      | 14                       | 0                        | 0                        |
| District of Columbia.....         | 7                        | 6                        | 1                        |                          | 130                      | 8                        | 0                        | 0                        |
| Virginia.....                     |                          |                          |                          |                          |                          |                          |                          |                          |
| West Virginia.....                | 5                        | 17                       | 42                       | 8                        | 39                       | 145                      | 0                        | 0                        |
| North Carolina.....               | 12                       | 5                        |                          |                          | 235                      | 789                      | 0                        | 1                        |
| South Carolina.....               | 7                        | 6                        | 231                      | 150                      | 75                       | 269                      | 0                        | 0                        |
| Georgia.....                      | 3                        | 10                       | 23                       | 13                       |                          | 27                       | 0                        | 1                        |
| Florida.....                      | 2                        | 7                        | 3                        |                          | 92                       | 36                       | 0                        | 2                        |
| <b>East South Central States:</b> |                          |                          |                          |                          |                          |                          |                          |                          |
| Kentucky.....                     | 5                        |                          |                          |                          | 90                       |                          | 1                        |                          |
| Tennessee.....                    | 3                        | 3                        | 27                       | 10                       | 53                       | 17                       | 0                        | 1                        |
| Alabama.....                      | 4                        | 11                       | 75                       | 7                        | 127                      | 142                      | 0                        | 0                        |
| Mississippi.....                  | 2                        | 3                        |                          |                          |                          |                          |                          |                          |
| <b>West South Central States:</b> |                          |                          |                          |                          |                          |                          |                          |                          |
| Arkansas.....                     |                          | 4                        | 63                       | 17                       | 34                       | 73                       | 0                        | 0                        |
| Louisiana.....                    | 9                        | 12                       | 25                       | 16                       | 36                       | 67                       | 0                        | 0                        |
| Oklahoma.....                     | 4                        | 8                        | 17                       | 40                       | 53                       | 276                      | 1                        | 0                        |
| Texas.....                        | 3                        | 17                       | 17                       | 19                       | 86                       | 80                       | 0                        | 0                        |

<sup>1</sup> New York City only.

<sup>2</sup> Week ended Friday.

<sup>3</sup> Exclusive of Tulsa.

*Cases of certain communicable diseases reported by telegraph by State health officers  
for weeks ended June 23, 1928, and June 25, 1927—Continued*

| Division and State                | Diphtheria               |                          | Influenza                |                          | Measles                  |                          | Meningococcus meningitis |                          |
|-----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                                   | Week ended June 23, 1928 | Week ended June 25, 1927 | Week ended June 23, 1928 | Week ended June 25, 1927 | Week ended June 23, 1928 | Week ended June 25, 1927 | Week ended June 23, 1928 | Week ended June 25, 1927 |
| <b>Mountain States:</b>           |                          |                          |                          |                          |                          |                          |                          |                          |
| Montana.....                      | 8                        | 4                        |                          |                          | 2                        | 0                        | 3                        | 2                        |
| Idaho.....                        | 1                        | 1                        |                          |                          | 6                        | 6                        | 0                        | 0                        |
| Wyoming.....                      |                          |                          | 1                        |                          | 2                        | 36                       | 0                        | 0                        |
| Colorado.....                     |                          | 12                       |                          |                          | 50                       | 54                       | 1                        | 0                        |
| New Mexico.....                   |                          | 3                        |                          |                          | 5                        | 31                       | 0                        | 0                        |
| Arizona.....                      | 5                        | 1                        |                          |                          |                          |                          | 2                        | 0                        |
| Utah <sup>1</sup> .....           | 3                        | 7                        |                          |                          |                          | 11                       | 1                        | 0                        |
| <b>Pacific States:</b>            |                          |                          |                          |                          |                          |                          |                          |                          |
| Washington.....                   | 8                        | 6                        |                          |                          | 65                       | 371                      | 1                        | 4                        |
| Oregon.....                       | 8                        | 10                       |                          | 4                        | 40                       | 115                      | 0                        | 2                        |
| California.....                   | 72                       | 98                       | 23                       | 12                       | 38                       | 402                      | 2                        | 2                        |
| <hr/>                             |                          |                          |                          |                          |                          |                          |                          |                          |
| Division and State                | Pollomyelitis            |                          | Scarlet fever            |                          | Smallpox                 |                          | Typhoid fever            |                          |
|                                   | Week ended June 23, 1928 | Week ended June 25, 1927 | Week ended June 23, 1928 | Week ended June 25, 1927 | Week ended June 23, 1928 | Week ended June 25, 1927 | Week ended June 23, 1928 | Week ended June 25, 1927 |
| <b>New England States:</b>        |                          |                          |                          |                          |                          |                          |                          |                          |
| Maine.....                        | 0                        | 0                        | 25                       | 19                       | 0                        | 0                        | 2                        | 1                        |
| New Hampshire.....                | 0                        |                          | 12                       |                          | 0                        |                          | 0                        |                          |
| Vermont.....                      | 0                        | 0                        | 8                        | 2                        | 0                        | 0                        | 0                        | 0                        |
| Massachusetts.....                | 3                        | 3                        | 135                      | 362                      | 0                        | 0                        | 4                        | 4                        |
| Rhode Island.....                 | 0                        | 0                        | 0                        | 18                       | 0                        | 0                        | 2                        | 0                        |
| Connecticut.....                  | 1                        | 0                        | 30                       | 48                       | 0                        | 0                        | 1                        | 0                        |
| <b>Middle Atlantic States:</b>    |                          |                          |                          |                          |                          |                          |                          |                          |
| New York.....                     | 2                        | 7                        | 326                      | 450                      | 5                        | 4                        | 17                       | 16                       |
| New Jersey.....                   | 0                        | 3                        | 104                      | 202                      | 0                        | 0                        | 3                        | 1                        |
| Pennsylvania.....                 | 3                        | 0                        | 248                      | 305                      | 0                        | 1                        | 15                       | 14                       |
| <b>East North Central States:</b> |                          |                          |                          |                          |                          |                          |                          |                          |
| Ohio.....                         | 2                        |                          | 74                       |                          | 16                       |                          | 4                        |                          |
| Indiana.....                      | 2                        | 1                        | 42                       | 48                       | 54                       | 96                       | 5                        | 7                        |
| Illinois.....                     | 0                        | 1                        | 173                      | 205                      | 25                       | 25                       | 11                       | 19                       |
| Michigan.....                     | 1                        | 1                        | 191                      | 214                      | 45                       | 32                       | 7                        | 5                        |
| Wisconsin.....                    | 0                        | 2                        | 110                      | 76                       | 9                        | 10                       | 1                        | 3                        |
| <b>West North Central States:</b> |                          |                          |                          |                          |                          |                          |                          |                          |
| Minnesota.....                    | 1                        | 1                        | 73                       | 98                       | 3                        | 1                        | 1                        | 3                        |
| Iowa.....                         | 0                        |                          | 23                       |                          | 20                       |                          | 5                        |                          |
| Missouri.....                     | 0                        | 0                        | 58                       | 30                       | 22                       | 29                       | 10                       | 10                       |
| North Dakota.....                 | 1                        | 0                        | 18                       | 19                       | 1                        | 5                        | 0                        | 1                        |
| South Dakota.....                 | 1                        | 0                        | 7                        | 11                       | 5                        | 9                        | 0                        | 1                        |
| Nebraska.....                     | 0                        | 0                        | 33                       | 8                        | 20                       | 6                        | 0                        | 4                        |
| Kansas.....                       | 0                        | 1                        | 37                       | 38                       | 43                       | 20                       | 2                        | 4                        |
| <b>South Atlantic States:</b>     |                          |                          |                          |                          |                          |                          |                          |                          |
| Delaware.....                     | 0                        | 0                        | 1                        | 0                        | 0                        | 0                        | 0                        | 4                        |
| Maryland <sup>1</sup> .....       | 2                        | 0                        | 36                       | 33                       | 0                        | 0                        | 7                        | 11                       |
| District of Columbia.....         | 0                        | 0                        | 22                       | 14                       | 0                        | 10                       | 0                        | 1                        |
| Virginia.....                     |                          |                          |                          |                          |                          |                          |                          |                          |
| West Virginia.....                | 1                        | 0                        | 18                       | 25                       | 12                       | 28                       | 4                        | 14                       |
| North Carolina.....               | 0                        | 0                        | 10                       | 13                       | 29                       | 25                       | 14                       | 52                       |
| South Carolina.....               | 4                        | 5                        | 1                        | 3                        | 1                        | 3                        | 72                       | 97                       |
| Georgia.....                      | 0                        | 1                        | 7                        | 12                       | 0                        | 6                        | 29                       | 49                       |
| Florida.....                      | 0                        | 2                        | 1                        | 4                        | 2                        | 12                       | 7                        | 4                        |
| <b>East South Central States:</b> |                          |                          |                          |                          |                          |                          |                          |                          |
| Kentucky.....                     | 1                        |                          | 23                       |                          | 8                        |                          | 5                        |                          |
| Tennessee.....                    | 1                        | 4                        | 10                       | 6                        | 11                       | 4                        | 18                       | 82                       |
| Alabama.....                      | 0                        | 3                        | 4                        | 12                       | 2                        | 6                        | 21                       | 69                       |
| Mississippi.....                  | 0                        | 0                        | 4                        | 2                        | 0                        | 1                        | 26                       | 30                       |
| <b>West South Central States:</b> |                          |                          |                          |                          |                          |                          |                          |                          |
| Arkansas.....                     | 0                        | 1                        | 5                        | 1                        | 1                        | 1                        | 13                       | 30                       |
| Louisiana.....                    | 1                        | 1                        | 4                        | 4                        | 10                       | 4                        | 29                       | 26                       |
| Oklahoma <sup>1</sup> .....       | 0                        | 3                        | 25                       | 8                        | 29                       | 59                       | 18                       | 40                       |
| Texas.....                        | 0                        | 4                        | 25                       | 6                        | 16                       | 10                       | 5                        | 33                       |
| <b>Mountain States:</b>           |                          |                          |                          |                          |                          |                          |                          |                          |
| Montana.....                      | 1                        | 0                        | 3                        | 8                        | 20                       | 14                       | 2                        | 2                        |
| Idaho.....                        | 1                        | 0                        | 2                        | 3                        | 5                        | 9                        | 2                        | 1                        |
| Wyoming.....                      | 0                        | 0                        | 9                        | 13                       | 1                        | 1                        | 5                        | 0                        |
| Colorado.....                     | 0                        | 0                        | 12                       | 60                       | 5                        | 2                        | 0                        | 3                        |
| New Mexico.....                   | 0                        | 1                        | 11                       | 5                        | 4                        | 0                        | 12                       | 4                        |
| Arizona.....                      | 0                        | 1                        | 0                        | 1                        | 2                        | 0                        | 2                        | 1                        |
| Utah <sup>1</sup> .....           | 0                        | 0                        | 5                        | 8                        | 3                        | 3                        | 0                        | 0                        |
| <b>Pacific States:</b>            |                          |                          |                          |                          |                          |                          |                          |                          |
| Washington.....                   | 0                        | 0                        | 23                       | 42                       | 16                       | 26                       | 3                        | 3                        |
| Oregon.....                       | 1                        | 0                        | 11                       | 8                        | 39                       | 17                       | 0                        | 5                        |
| California.....                   | 3                        | 24                       | 102                      | 108                      | 19                       | 8                        | 13                       | 16                       |

<sup>1</sup> Week ended Friday.<sup>2</sup> Exclusive of Tulsa.

## SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

| State            | Menin-<br>gococ-<br>cus<br>menin-<br>gitis | Diph-<br>theria | Infla-<br>enza | Ma-<br>laria | Mea-<br>sles | Pel-<br>lagra | Polio-<br>mye-<br>litis | Scarlet<br>fever | Small-<br>pox | Ty-<br>phoid<br>fever |
|------------------|--|-----------------|----------------|--------------|--------------|---------------|-------------------------|------------------|---------------|-----------------------|
| <i>May, 1928</i> |  |                 |                |              |              |               |                         |                  |               |                       |
| Iowa.....        | 4  | 38              |                |              | 51           |               | 0                       | 233              | 211           | 2                     |
| Maryland.....    | 1  | 154             | 85             |              | 3,125        |               | 4                       | 289              | 2             | 29                    |
| Minnesota.....   | 15   | 74              | 35             |              | 437          |               | 4                       | 535              | 14            | 4                     |
| Ohio.....        | 32   | 370             | 663            | 1            | 4,739        |               | 9                       | 914              | 165           | 21                    |

| <i>May, 1928.</i>       |       | <i>May, 1928—Continued.</i> |       |
|-------------------------|-------|-----------------------------|-------|
| Chicken pox:            | Cases | Puerperal septicemia:       | Cases |
| Iowa.....               | 142   | Ohio.....                   | 3     |
| Maryland.....           | 358   | Rabies in animals:          |       |
| Minnesota.....          | 326   | Maryland.....               | 5     |
| Ohio.....               | 909   | Rabies in man:              |       |
| Dysentery:              |       | Iowa.....                   | 1     |
| Maryland.....           | 3     | Scabies:                    |       |
| Minnesota.....          | 1     | Maryland.....               | 1     |
| German measles:         |       | Septic sore throat:         |       |
| Maryland.....           | 535   | Maryland.....               | 10    |
| Ohio.....               | 64    | Ohio.....                   | 65    |
| Impetigo contagiosa:    |       | Tetanus:                    |       |
| Maryland.....           | 2     | Maryland.....               | 3     |
| Lead poisoning:         |       | Ohio.....                   | 3     |
| Ohio.....               | 9     | Trachoma:                   |       |
| Lethargic encephalitis: |       | Minnesota.....              | 8     |
| Maryland.....           | 1     | Ohio.....                   | 11    |
| Minnesota.....          | 5     | Tularaemia:                 |       |
| Ohio.....               | 5     | Maryland.....               | 1     |
| Mumps:                  |       | Undulant (Malta) fever:     |       |
| Iowa.....               | 255   | Iowa.....                   | 2     |
| Maryland.....           | 320   | Minnesota.....              | 1     |
| Ohio.....               | 953   | Vincent's angina:           |       |
| Ophthalmia neonatorum:  |       | Maryland.....               | 13    |
| Maryland.....           | 2     | Whooping cough:             |       |
| Ohio.....               | 93    | Iowa.....                   | 39    |
| Paratyphoid fever:      |       | Maryland.....               | 265   |
| Ohio.....               | 1     | Minnesota.....              | 297   |
|                         |       | Ohio.....                   | 548   |

## RECIPROCAL NOTIFICATIONS

Notifications regarding communicable diseases sent during the month of May, 1928, by departments of health of certain States to other State health departments

| Disease                       | Calif-<br>ornia | Illinoi<br>s | Min-<br>nesota | New<br>Hamp-<br>shire | New<br>Jersey | New<br>Mexico | New<br>York | Wash-<br>ington |
|-------------------------------|-----------------|--------------|----------------|-----------------------|---------------|---------------|-------------|-----------------|
| Diphtheria.....               |                 | 2            |                |                       |               |               |             |                 |
| Dysentery (amebic).....       |                 |              | 1              |                       |               |               |             |                 |
| Encephallitis (epidemic)..... |                 |              | 1              |                       |               |               |             |                 |
| Measles.....                  |                 |              |                |                       |               |               | 1           |                 |
| Scarlet fever.....            |                 |              |                |                       |               |               | 3           |                 |
| Smallpox.....                 | 1               | 4            |                | 1                     | 1             |               |             | 1               |
| Tuberculosis.....             | 2               |              | 50             |                       |               |               |             |                 |
| Typhoid fever.....            |                 |              | 1              |                       |               | 1             |             |                 |
| Undulant (Malta) fever.....   |                 |              |                |                       |               |               |             |                 |



## GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 98 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 31,560,000. The estimated population of the 93 cities reporting deaths is more than 30,900,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

*Weeks ended June 9, 1928, and June 11, 1927*

|                          | 1928   | 1927  | Estimated expectancy |
|--------------------------|--------|-------|----------------------|
| <i>Cases reported</i>    |        |       |                      |
| Diphtheria:              |        |       |                      |
| 43 States.....           | 1,337  | 1,530 |                      |
| 98 cities.....           | 808    | 950   | 791                  |
| Measles:                 |        |       |                      |
| 42 States.....           | 13,859 | 9,192 |                      |
| 98 cities.....           | 6,191  | 2,529 |                      |
| Poliomyelitis:           |        |       |                      |
| 43 States.....           | 30     | 30    |                      |
| Scarlet fever:           |        |       |                      |
| 43 States.....           | 2,682  | 3,078 |                      |
| 98 cities.....           | 1,193  | 1,426 | 902                  |
| Smallpox:                |        |       |                      |
| 43 States.....           | 683    | 631   |                      |
| 98 cities.....           | 66     | 120   | 89                   |
| Typhoid fever:           |        |       |                      |
| 43 States.....           | 313    | 609   |                      |
| 98 cities.....           | 55     | 65    | 70                   |
| <i>Deaths reported</i>   |        |       |                      |
| Influenza and pneumonia: |        |       |                      |
| 93 cities.....           | 548    | 577   |                      |
| Smallpox:                |        |       |                      |
| 93 cities.....           | 0      | 0     |                      |

## City reports for week ended June 9, 1928

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence the number of cases of the disease under consideration that may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding weeks of the preceding years. When the reports include several epidemics or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during non-epidemic years.

If the reports have not been received for the full nine years, data are used for as many years as possible but no year earlier than 1919 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviations from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

| Division, State, and city | Population, July 1, 1926, estimated | Chicken pox, cases reported | Diphtheria                  |                | Influenza      |                 | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|---------------------------|-------------------------------------|-----------------------------|-----------------------------|----------------|----------------|-----------------|-------------------------|-----------------------|----------------------------|
|                           |                                     |                             | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported |                         |                       |                            |
| NEW ENGLAND               |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Maine:                    |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Portland.....             | 70,400                              | 9                           | 2                           | 0              | 0              | 1               | 17                      | 4                     | 1                          |
| New Hampshire:            |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Concord.....              | 122,546                             | 0                           | 0                           | 0              | 0              | 0               | 7                       | 0                     | 0                          |
| Manchester.....           | 84,000                              | 0                           | 1                           | 0              | 0              | 0               | 0                       | 0                     | 2                          |

<sup>1</sup> Estimated, July 1, 1925.

## City reports for week ended June 9, 1928—Continued

| Division, State, and city | Population, July 1, 1926, estimated | Chick-en pox, cases re-reported | Diphtheria                    |                   | Influenza         |                    | Meas-sles, cases re-reported | Mumps, cases re-reported | Pneu-monia, deaths re-reported |
|---------------------------|-------------------------------------|---------------------------------|-------------------------------|-------------------|-------------------|--------------------|------------------------------|--------------------------|--------------------------------|
|                           |                                     |                                 | Cases, esti-mated expect-ancy | Cases re-reported | Cases re-reported | Deaths re-reported |                              |                          |                                |
| NEW ENGLAND—CON.          |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Vermont:                  |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Barre.....                | <sup>1</sup> 10,008                 | 0                               | 0                             | 0                 | 0                 | 0                  | 0                            | 0                        | 0                              |
| Burlington.....           | <sup>1</sup> 24,069                 | 2                               | 1                             | 0                 | 0                 | 0                  | 9                            | 0                        | 0                              |
| Massachusetts:            |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Boston.....               | 787,000                             | 38                              | 44                            | 28                | 8                 | 2                  | 51                           | 3                        | 47                             |
| Fall River.....           | 131,000                             | 2                               | 3                             | 1                 | 0                 | 0                  | 22                           | 1                        | 4                              |
| Springfield.....          | 145,000                             | 5                               | 2                             | 0                 | 0                 | 0                  | 2                            | 11                       | 1                              |
| Worcester.....            | 193,000                             | 14                              | 3                             | 2                 | 0                 | 1                  | 41                           | 17                       | 0                              |
| Rhode Island:             |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Pawtucket.....            | 71,000                              | 0                               | 0                             | 1                 | 0                 | 0                  | 15                           | 15                       | 1                              |
| Providence.....           | 275,000                             | 0                               | 6                             | 3                 | 2                 | 0                  | 150                          | 1                        | 4                              |
| Connecticut:              |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Bridgeport.....           | ( <sup>1</sup> )                    | 1                               | 5                             | 3                 | 0                 | 0                  | 12                           | 0                        | 5                              |
| Hartford.....             | 164,000                             | 0                               | 5                             | 4                 | 0                 | 1                  | 66                           | 6                        | 6                              |
| New Haven.....            | 182,000                             | 8                               | 1                             | 0                 | 0                 | 1                  | 31                           | 23                       | 4                              |
| MIDDLE ATLANTIC           |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| New York:                 |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Buffalo.....              | 544,000                             | 10                              | 8                             | 17                | -----             | 0                  | 41                           | 27                       | 23                             |
| New York.....             | 5,924,000                           | 157                             | 240                           | 296               | 52                | 19                 | 2,121                        | 27                       | 194                            |
| Rochester.....            | 321,000                             | 5                               | 9                             | 3                 | -----             | 0                  | 145                          | 30                       | 3                              |
| Syracuse.....             | 185,000                             | 23                              | 4                             | 5                 | -----             | 0                  | 72                           | 12                       | 4                              |
| New Jersey:               |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Camden.....               | 131,000                             | 1                               | 5                             | 11                | 1                 | 0                  | 37                           | 3                        | 3                              |
| Newark.....               | 450,000                             | 26                              | 10                            | 50                | 4                 | 1                  | 128                          | 8                        | 12                             |
| Trenton.....              | 134,000                             | 3                               | 3                             | 0                 | 0                 | 2                  | 21                           | 0                        | 1                              |
| Pennsylvania:             |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Philadelphia.....         | 2,008,000                           | 62                              | 61                            | 51                | 0                 | 8                  | 954                          | 43                       | 44                             |
| Pittsburgh.....           | 637,000                             | 29                              | 17                            | 18                | 0                 | 7                  | 77                           | 52                       | 18                             |
| Reading.....              | 114,000                             | 6                               | 2                             | 1                 | 0                 | 1                  | 30                           | 0                        | 0                              |
| EAST NORTH CENTRAL        |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Ohio:                     |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Cincinnati.....           | 411,000                             | 3                               | 7                             | 8                 | 1                 | 0                  | 8                            | 0                        | 13                             |
| Cleveland.....            | 960,000                             | 70                              | 24                            | 26                | 5                 | 4                  | 134                          | 38                       | 25                             |
| Columbus.....             | 285,000                             | 6                               | 3                             | 1                 | 0                 | 0                  | 83                           | 1                        | 1                              |
| Toledo.....               | 295,000                             | 25                              | 4                             | 1                 | 0                 | 0                  | 73                           | 1                        | 5                              |
| Indiana:                  |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Fort Wayne.....           | 90,900                              | 0                               | 2                             | 3                 | 0                 | 1                  | 0                            | 0                        | 5                              |
| Indianapolis.....         | 367,000                             | 18                              | 3                             | 1                 | 0                 | 0                  | 151                          | 27                       | 8                              |
| South Bend.....           | 81,700                              | 0                               | 1                             | 2                 | 0                 | 0                  | 2                            | 0                        | 3                              |
| Terre Haute.....          | 71,900                              | 3                               | 1                             | 0                 | 0                 | 0                  | 4                            | 0                        | 3                              |
| Illinois:                 |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Chicago.....              | 3,048,000                           | 97                              | 68                            | 80                | 21                | 13                 | 47                           | 40                       | 65                             |
| Springfield.....          | 64,700                              | 5                               | 1                             | 1                 | 1                 | 1                  | 0                            | 1                        | 0                              |
| Michigan:                 |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Detroit.....              | <sup>1</sup> 1,242,014              | 44                              | 42                            | 35                | 6                 | 3                  | 400                          | 17                       | 24                             |
| Flint.....                | 136,000                             | 9                               | 3                             | 1                 | 0                 | 0                  | 204                          | 9                        | 4                              |
| Grand Rapids.....         | 156,000                             | 1                               | 2                             | 0                 | 0                 | 2                  | 15                           | 2                        | 0                              |
| Wisconsin:                |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Kenosha.....              | 52,700                              | 26                              | 1                             | 0                 | 0                 | 0                  | 1                            | 0                        | 0                              |
| Milwaukee.....            | 517,000                             | 82                              | 13                            | 6                 | 1                 | 1                  | 1                            | 11                       | 24                             |
| Racine.....               | 69,400                              | 1                               | 1                             | 0                 | 1                 | 1                  | 2                            | 1                        | 1                              |
| Superior.....             | <sup>1</sup> 39,671                 | 0                               | 0                             | 1                 | 0                 | 0                  | 0                            | 0                        | 0                              |
| WEST NORTH CENTRAL        |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Minnesota:                |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Duluth.....               | 113,000                             | 4                               | 0                             | 1                 | 0                 | 3                  | 0                            | 2                        | 2                              |
| Minneapolis.....          | 434,000                             | 53                              | 14                            | 3                 | 0                 | 1                  | 53                           | 101                      | 5                              |
| St. Paul.....             | 248,000                             | 6                               | 9                             | 0                 | 0                 | 1                  | 17                           | 11                       | 10                             |
| Iowa:                     |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Davenport.....            | <sup>1</sup> 52,469                 | 2                               | 1                             | 0                 | 0                 | -----              | 0                            | 0                        | -----                          |
| Des Moines.....           | 146,000                             | 0                               | 1                             | 0                 | 0                 | -----              | 0                            | 0                        | -----                          |
| Sioux City.....           | 78,000                              | 3                               | 0                             | 0                 | 0                 | -----              | 0                            | 10                       | -----                          |
| Waterloo.....             | 36,900                              | -----                           | 0                             | -----             | -----             | -----              | -----                        | -----                    | -----                          |
| Missouri:                 |                                     |                                 |                               |                   |                   |                    |                              |                          |                                |
| Kansas City.....          | 375,000                             | 22                              | 5                             | 4                 | 0                 | 1                  | 36                           | 10                       | 11                             |
| St. Joseph.....           | 78,400                              | 1                               | 0                             | 0                 | 0                 | 0                  | 0                            | 0                        | 1                              |
| St. Louis.....            | 830,000                             | 7                               | 33                            | 15                | 0                 | 0                  | 185                          | 15                       | -----                          |

<sup>1</sup> Estimated, July 1, 1925.<sup>1</sup> No estimate made.

## City reports for week ended June 9, 1928—Continued

| Division, State, and city    | Population, July 1, 1926, estimated | Chicken pox, cases re-reported | Diphtheria                  |                   | Influenza         |                    | Measles, cases re-reported | Mumps, cases re-reported | Pneumonia, deaths re-reported |
|------------------------------|-------------------------------------|--------------------------------|-----------------------------|-------------------|-------------------|--------------------|----------------------------|--------------------------|-------------------------------|
|                              |                                     |                                | Cases, estimated expectancy | Cases re-reported | Cases re-reported | Deaths re-reported |                            |                          |                               |
| WEST NORTH CENTRAL—continued |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| North Dakota:                |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Fargo.....                   | <sup>1</sup> 26,403                 | 1                              | 0                           | 0                 | 0                 | 0                  | 0                          | 0                        | 0                             |
| Grand Forks.....             | <sup>1</sup> 14,811                 | 0                              | 0                           | 0                 | 0                 | 0                  | 0                          | 0                        | 0                             |
| South Dakota:                |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Aberdeen.....                | <sup>1</sup> 15,036                 | 1                              | 0                           | 0                 | 0                 | 0                  | 0                          | 0                        | 0                             |
| Sioux Falls.....             | <sup>1</sup> 30,127                 | 0                              | 0                           | 0                 | 0                 | 0                  | 0                          | 0                        | 0                             |
| Nebraska:                    |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Lincoln.....                 | 62,000                              | 3                              | 1                           | 2                 | 0                 | 0                  | 0                          | 6                        | 0                             |
| Omaha.....                   | 216,000                             | 9                              | 2                           | 2                 | 0                 | 0                  | 0                          | 1                        | 1                             |
| Kansas:                      |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Topeka.....                  | 56,500                              | 12                             | 1                           | 0                 | 1                 | 1                  | 4                          | 4                        | 1                             |
| Wichita.....                 | 92,500                              | 3                              | 1                           | 0                 | 0                 | 0                  | 10                         | 0                        | 0                             |
| SOUTH ATLANTIC               |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Delaware:                    |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Wilmington.....              | 124,000                             | 2                              | 1                           | 2                 | 0                 | 0                  | 30                         | 3                        | 1                             |
| Maryland:                    |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Baltimore.....               | 808,000                             | 37                             | 19                          | 31                | 2                 | 1                  | 126                        | 20                       | 24                            |
| Cumberland.....              | <sup>1</sup> 33,741                 | 2                              | 0                           | 0                 | 0                 | 0                  | 2                          | 0                        | 1                             |
| Frederick.....               | <sup>1</sup> 12,035                 | 0                              | 0                           | 0                 | 0                 | 0                  | 6                          | 0                        | 0                             |
| District of Columbia:        |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Washington.....              | 528,000                             | 8                              | 8                           | 18                | 1                 | 1                  | 192                        | 0                        | 11                            |
| Virginia:                    |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Lynchburg.....               | <sup>2</sup> 38,493                 | 2                              | 0                           | 1                 | 0                 | 0                  | 14                         | 6                        | 2                             |
| Norfolk.....                 | 174,000                             | 2                              | 0                           | 0                 | 0                 | 0                  | 9                          | 0                        | 5                             |
| Richmond.....                | 189,000                             | 1                              | 1                           | 1                 | 0                 | 1                  | 39                         | 2                        | 4                             |
| Roanoke.....                 | 61,900                              | 4                              | 1                           | 0                 | 0                 | 0                  | 12                         | 0                        | 2                             |
| West Virginia:               |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Charleston.....              | 50,700                              | 4                              | 0                           | 1                 | 1                 | 0                  | 0                          | 0                        | 1                             |
| Wheeling.....                | <sup>1</sup> 50,208                 | 1                              | 0                           | 0                 | 0                 | 0                  | 10                         | 0                        | 2                             |
| North Carolina:              |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Raleigh.....                 | <sup>1</sup> 30,371                 | 1                              | 0                           | 0                 | 0                 | 0                  | 17                         | 0                        | 0                             |
| Wilmington.....              | 37,700                              | 3                              | 0                           | 0                 | 0                 | 0                  | 0                          | 0                        | 4                             |
| Winston-Salem.....           | 71,800                              | 0                              | 0                           | 0                 | 0                 | 0                  | 5                          | 7                        | 0                             |
| South Carolina:              |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Charleston.....              | 74,100                              | 0                              | 0                           | 0                 | 2                 | 0                  | 2                          | 0                        | 3                             |
| Columbia.....                | 41,800                              | 5                              | 0                           | 1                 | 0                 | 2                  | 0                          | 8                        | 1                             |
| Greenville.....              | <sup>1</sup> 27,311                 | 0                              | 0                           | 0                 | 0                 | 0                  | 0                          | 3                        | 0                             |
| Georgia:                     |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Atlanta.....                 | (7)                                 | 3                              | 1                           | 1                 | 0                 | 0                  | 11                         | 4                        | 7                             |
| Brunswick.....               | <sup>1</sup> 16,809                 | 3                              | 0                           | 0                 | 0                 | 0                  | 0                          | 7                        | 0                             |
| Savannah.....                | 94,900                              | 2                              | 0                           | 0                 | 7                 | 0                  | 0                          | 1                        | 4                             |
| Florida:                     |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Miami.....                   | <sup>2</sup> 131,286                | 1                              | 4                           | 2                 | 0                 | 0                  | 5                          | 1                        | 2                             |
| St. Petersburg.....          | <sup>1</sup> 47,629                 | 0                              | 0                           | 0                 | 0                 | 0                  | 0                          | 0                        | 1                             |
| Tampa.....                   | 102,000                             | 0                              | 0                           | 0                 | 0                 | 0                  | 0                          | 0                        | 2                             |
| EAST SOUTH CENTRAL           |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Kentucky:                    |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Covington.....               | 38,500                              | 0                              | 0                           | 1                 | 0                 | 1                  | 1                          | 0                        | 3                             |
| Louisville.....              | 311,000                             | 0                              | 2                           | 0                 | 0                 | 0                  | 91                         | 5                        | 0                             |
| Tennessee:                   |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Memphis.....                 | 177,000                             | 1                              | 1                           | 1                 | 0                 | 1                  | 3                          | 4                        | 1                             |
| Nashville.....               | 137,000                             | 1                              | 0                           | 0                 | 0                 | 1                  | 19                         | 1                        | 3                             |
| Alabama:                     |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Birmingham.....              | 211,000                             | 5                              | 1                           | 0                 | 0                 | 7                  | 30                         | 2                        | 13                            |
| Mobile.....                  | 66,800                              | 0                              | 1                           | 1                 | 0                 | 0                  | 6                          | 0                        | 1                             |
| Montgomery.....              | 47,000                              | 0                              | 0                           | 1                 | 1                 | 0                  | 3                          | 0                        | 0                             |
| WEST SOUTH CENTRAL           |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Arkansas:                    |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Fort Smith.....              | <sup>1</sup> 31,643                 | 1                              | 1                           | 0                 | 0                 | 0                  | 0                          | 0                        | 2                             |
| Little Rock.....             | 75,900                              | 4                              | 0                           | 0                 | 0                 | 0                  | 2                          | 0                        | 0                             |
| Louisiana:                   |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| New Orleans.....             | 419,000                             | 1                              | 5                           | 10                | 3                 | 6                  | 0                          | 0                        | 6                             |
| Shreveport.....              | 69,500                              | 0                              | 0                           | 1                 | 0                 | 0                  | 2                          | 0                        | 2                             |
| Oklahoma:                    |                                     |                                |                             |                   |                   |                    |                            |                          |                               |
| Tulsa.....                   | 133,000                             | 1                              | 0                           | 0                 | 0                 | 0                  | 3                          | 2                        | 0                             |

<sup>1</sup> Estimated, July 1, 1925.<sup>2</sup> No estimate made.<sup>3</sup> Special census.

## City reports for week ended June 9, 1928—Continued

| Division, State, and city    | Population, July 1, 1926, estimated | Chicken pox, cases reported | Diphtheria                  |                | Influenza      |                 | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|------------------------------|-------------------------------------|-----------------------------|-----------------------------|----------------|----------------|-----------------|-------------------------|-----------------------|----------------------------|
|                              |                                     |                             | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported |                         |                       |                            |
| WEST SOUTH CENTRAL—continued |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Texas:                       |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Dallas.....                  | 203,000                             | 3                           | 3                           | 2              | 0              | 1               | 9                       | 0                     | 0                          |
| Fort Worth.....              | 159,000                             | 8                           | 1                           | 0              | 0              | 1               | 1                       | 1                     | 3                          |
| Galveston.....               | 49,100                              | 0                           | 0                           | 0              | 0              | 0               | 0                       | 0                     | 2                          |
| Houston.....                 | <sup>1</sup> 164,954                | 0                           | 2                           | 2              | 0              | 0               | 1                       | 0                     | 6                          |
| San Antonio.....             | 205,000                             | 0                           | 1                           | 0              | 0              | 1               | 1                       | 0                     | 8                          |
| MOUNTAIN                     |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Montana:                     |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Billings.....                | <sup>1</sup> 17,971                 | 0                           | 0                           | 0              | 0              | 0               | 0                       | 0                     | 0                          |
| Great Falls.....             | <sup>1</sup> 29,883                 | 0                           | 0                           | 0              | 0              | 0               | 11                      | 0                     | 0                          |
| Helena.....                  | <sup>1</sup> 12,037                 | 0                           | 0                           | 0              | 0              | 0               | 0                       | 0                     | 0                          |
| Missoula.....                | <sup>1</sup> 12,668                 | 0                           | 0                           | 0              | 0              | 0               | 0                       | 0                     | 0                          |
| Idaho:                       |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Boise.....                   | <sup>1</sup> 23,042                 | 1                           | 0                           | 0              | 0              | 0               | 0                       | 0                     | 0                          |
| Colorado:                    |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Denver.....                  | 285,000                             | 39                          | 8                           | 3              | -----          | 0               | 51                      | 74                    | 8                          |
| Pueblo.....                  | 43,900                              | 10                          | 1                           | 0              | 0              | 0               | 20                      | 0                     | 1                          |
| New Mexico:                  |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Albuquerque.....             | <sup>1</sup> 21,000                 | 0                           | 0                           | 0              | 0              | 0               | 2                       | 0                     | 0                          |
| Utah:                        |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Salt Lake City.....          | 133,000                             | 16                          | 4                           | 1              | 0              | 0               | 1                       | 0                     | 1                          |
| Nevada:                      |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Reno.....                    | <sup>1</sup> 12,665                 | 0                           | 0                           | 0              | 0              | 0               | 0                       | 0                     | 0                          |
| PACIFIC                      |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Washington:                  |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Seattle.....                 | (7)                                 | 35                          | 5                           | 6              | 0              | -----           | 15                      | 9                     | 0                          |
| Spokane.....                 | 109,000                             | 32                          | 2                           | 3              | 0              | -----           | 0                       | 0                     | -----                      |
| Tacoma.....                  | 106,000                             | 2                           | 2                           | 0              | 0              | 0               | 23                      | 29                    | 1                          |
| Oregon:                      |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Portland.....                | <sup>1</sup> 282,333                | 22                          | 5                           | 4              | 0              | 0               | 17                      | 4                     | 6                          |
| California:                  |                                     |                             |                             |                |                |                 |                         |                       |                            |
| Los Angeles.....             | (7)                                 | 67                          | 38                          | 26             | 14             | 1               | 20                      | 24                    | 17                         |
| Sacramento.....              | 73,400                              | 6                           | 3                           | 0              | 0              | 0               | 0                       | 10                    | 3                          |
| San Francisco.....           | 567,000                             | 37                          | 15                          | 10             | 6              | 1               | 10                      | 31                    | 3                          |

| Division, State, and city | Scarlet fever                               |                        | Smallpox                                    |                        |                         | Tuber-<br>culosis,<br>deaths<br>reported | Typhoid fever                               |                        |                         | Whoop-<br>ing<br>cough,<br>cases<br>re-<br>ported | Deaths,<br>all<br>causes |
|---------------------------|---|------------------------|---|------------------------|-------------------------|--|---|------------------------|-------------------------|---|--------------------------|
|                           | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |  | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |   |                          |
| NEW ENGLAND               |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Maine:                    |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Portland                  | 1   | 3                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 3   | 18                       |
| New Hampshire:            |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Concord                   | 0   | 2                      | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 0   | 9                        |
| Manchester                | 0   | 0                      | 0   | 0                      | 0                       | 2  | 0   | 0                      | 0                       | 0   | 21                       |
| Vermont:                  |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Barre                     | 0   | 0                      | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 0   | 3                        |
| Burlington                | 0   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 10                       |
| Massachusetts:            |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Boston                    | 49  | 67                     | 0   | 0                      | 0                       | 12                                       | 2   | 1                      | 0                       | 24  | 246                      |
| Fall River                | 2   | 6                      | 0   | 0                      | 0                       | 1  | 1   | 0                      | 0                       | 6   | 26                       |
| Springfield               | 5   | 12                     | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 0   | 27                       |
| Worcester                 | 7   | 10                     | 0   | 0                      | 0                       | 1  | 1   | 0                      | 0                       | 8   | 44                       |
| Rhode Island:             |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Pawtucket                 | 1   | 2                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 2   | 16                       |
| Providence                | 7   | 21                     | 0   | 0                      | 0                       | 3  | 0   | 0                      | 0                       | 1   | 65                       |
| Connecticut:              |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Bridgeport                | 8   | 0                      | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 8   | 25                       |
| Hartford                  | 3   | 3                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 9   | 41                       |
| New Haven                 | 4   | 0                      | 0   | 0                      | 0                       | 4  | 1   | 0                      | 0                       | 11  | 49                       |

<sup>1</sup> Estimated, July 1, 1925.<sup>1</sup> No estimate made.

## City reports for week ended June 9, 1928—Continued

| Division, State,<br>and city | Scarlet fever                               |                        | Smallpox                                    |                        |                         | Tuber-<br>culosis,<br>deaths<br>re-<br>ported | Typhoid fever                               |                        |                         | Whoop-<br>ing<br>cough,<br>cases<br>re-<br>ported | Deaths,<br>all<br>causes |
|------------------------------|---|------------------------|---|------------------------|-------------------------|---|---|------------------------|-------------------------|---|--------------------------|
|                              | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |   | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |   |                          |
| MIDDLE ATLANTIC              |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| New York:                    |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Buffalo.....                 | 16  | 28                     | 0   | 0                      | 0                       | 0   | 1   | 11                     | 10                      | 23  | 161                      |
| New York.....                | 180   | 225                    | 0   | 0                      | 0                       | 93  | 10  | 7                      | 0                       | 142   | 1,536                    |
| Rochester.....               | 11  | 5                      | 0   | 0                      | 0                       | 1   | 0   | 0                      | 1                       | 4   | 72                       |
| Syracuse.....                | 6   | 8                      | 0   | 0                      | 0                       | 2   | 0   | 0                      | 0                       | 17  | 51                       |
| New Jersey:                  |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Camden.....                  | 5   | 6                      | 0   | 0                      | 0                       | 5   | 0   | 0                      | 0                       | 0   | 34                       |
| Newark.....                  | 18  | 22                     | 0   | 0                      | 0                       | 8   | 0   | 0                      | 0                       | 10  | 118                      |
| Trenton.....                 | 2   | 0                      | 0   | 0                      | 0                       | 4   | 1   | 0                      | 0                       | 0   | 36                       |
| Pennsylvania:                |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Philadelphia.....            | 74  | 66                     | 1   | 0                      | 0                       | 40  | 3   | 3                      | 1                       | 85  | 496                      |
| Pittsburgh.....              | 27  | 20                     | 1   | 0                      | 0                       | 8   | 1   | 0                      | 0                       | 24  | 181                      |
| Reading.....                 | 2   | 11                     | 0   | 0                      | 0                       | 1   | 0   | 0                      | 0                       | 6   | 28                       |
| EAST NORTH CENTRAL           |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Ohio:                        |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Cincinnati.....              | 11  | 33                     | 2   | 2                      | 0                       | 8   | 1   | 0                      | 0                       | 3   | 139                      |
| Cleveland.....               | 27  | 11                     | 1   | 1                      | 0                       | 14  | 1   | 4                      | 0                       | 81  | 214                      |
| Columbus.....                | 6   | 1                      | 1   | 0                      | 0                       | 4   | 0   | 0                      | 0                       | 5   | 66                       |
| Toledo.....                  | 11  | 5                      | 1   | 0                      | 0                       | 5   | 0   | 0                      | 0                       | 6   | 68                       |
| Indiana:                     |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Fort Wayne.....              | 2   | 2                      | 2   | 0                      | 0                       | 1   | 0   | 0                      | 0                       | 1   | 26                       |
| Indianapolis.....            | 7   | 13                     | 10  | 1                      | 0                       | 7   | 1   | 0                      | 0                       | 5   | 105                      |
| South Bend.....              | 2   | 0                      | 1   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 0   | 15                       |
| Terre Haute.....             | 2   | 1                      | 0   | 5                      | 0                       | 0   | 0   | 0                      | 0                       | 0   | 19                       |
| Illinois:                    |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Chicago.....                 | 93  | 90                     | 1   | 1                      | 0                       | 54  | 3   | 4                      | 1                       | 84  | 706                      |
| Springfield.....             | 2   | 9                      | 0   | 1                      | 0                       | 0   | 0   | 0                      | 0                       | 8   | 22                       |
| Michigan:                    |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Detroit.....                 | 65  | 121                    | 2   | 0                      | 0                       | 33  | 2   | 2                      | 0                       | 79  | 282                      |
| Flint.....                   | 5   | 14                     | 0   | 3                      | 0                       | 1   | 0   | 0                      | 0                       | 9   | 29                       |
| Grand Rapids.....            | 5   | 5                      | 0   | 0                      | 0                       | 2   | 0   | 0                      | 0                       | 3   | 31                       |
| Wisconsin:                   |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Kenosha.....                 | 1   | 0                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 23  | 6                        |
| Milwaukee.....               | 17  | 49                     | 1   | 0                      | 0                       | 6   | 0   | 0                      | 0                       | 37  | 138                      |
| Racine.....                  | 3   | 1                      | 0   | 0                      | 0                       | 1   | 0   | 0                      | 0                       | 2   | 11                       |
| Superior.....                | 2   | 4                      | 1   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 0   | -----                    |
| WEST NORTH CENTRAL           |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Minnesota:                   |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Duluth.....                  | 6   | 9                      | 2   | 0                      | 0                       | 0   | 0   | 2                      | 0                       | 4   | 23                       |
| Minneapolis.....             | 27  | 24                     | 7   | 0                      | 0                       | 1   | 1   | 0                      | 0                       | 34  | 81                       |
| St. Paul.....                | 18  | 8                      | 2   | 0                      | 0                       | 7   | 0   | 0                      | 0                       | 60  | 60                       |
| Iowa:                        |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Davenport.....               | 0   | 1                      | 1   | 0                      | -----                   | -----   | 0   | 0                      | -----                   | 0   | -----                    |
| Des Moines.....              | 5   | 7                      | 3   | 10                     | -----                   | -----   | 0   | 0                      | -----                   | 0   | 82                       |
| Sioux City.....              | 1   | 2                      | 2   | 0                      | -----                   | -----   | 0   | 0                      | -----                   | 3   | -----                    |
| Waterloo.....                | 1   | -----                  | 0   | -----                  | -----                   | -----   | 0   | -----                  | -----                   | -----   | -----                    |
| Missouri:                    |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Kansas City.....             | 6   | 13                     | 1   | 0                      | 0                       | 9   | 1   | 0                      | 0                       | 9   | 104                      |
| St. Joseph.....              | 0   | 1                      | 0   | 2                      | 0                       | 1   | 0   | 0                      | 0                       | 0   | 28                       |
| St. Louis.....               | 22  | 15                     | 2   | 3                      | 0                       | 20  | 2   | 0                      | 0                       | 17  | 238                      |
| North Dakota:                |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Fargo.....                   | 1   | 3                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 4   | 6                        |
| Grand Forks.....             | 0   | 2                      | 0   | 0                      | -----                   | -----   | 0   | 0                      | -----                   | 0   | -----                    |
| South Dakota:                |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Aberdeen.....                | 2   | 0                      | 0   | 0                      | -----                   | -----   | 0   | 0                      | -----                   | 0   | -----                    |
| Sioux Falls.....             | 1   | 0                      | 0   | 0                      | -----                   | -----   | 0   | 0                      | -----                   | 0   | 4                        |
| Nebraska:                    |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Lincoln.....                 | 1   | 5                      | 0   | 2                      | 0                       | 0   | 1   | 0                      | 0                       | 3   | 17                       |
| Omaha.....                   | 4   | 6                      | 5   | 4                      | 0                       | 1   | 0   | 0                      | 1                       | 2   | 30                       |
| Kansas:                      |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Topeka.....                  | 1   | 3                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 1   | 9                        |
| Wichita.....                 | 1   | 0                      | 0   | 2                      | 0                       | 1   | 1   | 0                      | 0                       | 6   | 20                       |



## City reports for week ended June 9, 1928—Continued

| Division, State,<br>and city | Scarlet fever                               |                        | Smallpox                                    |                        |                         | Tuber-<br>culosis,<br>deaths<br>re-<br>ported | Typhoid fever                               |                        |                         | Whoop-<br>ing<br>cough,<br>cases<br>re-<br>ported | Deaths,<br>all<br>causes |
|------------------------------|---|------------------------|---|------------------------|-------------------------|---|---|------------------------|-------------------------|---|--------------------------|
|                              | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |   | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |   |                          |
| SOUTH ATLANTIC               |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Delaware:                    |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Wilmington                   | 3   | 0                      | 0   | 0                      | 0                       | 2   | 1   | 0                      | 0                       | 1   | 26                       |
| Maryland:                    |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Baltimore                    | 26  | 15                     | 0   | 0                      | 0                       | 12  | 2   | 1                      | 2                       | 56  | 226                      |
| Cumberland                   | 0   | 1                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 0   | 8                        |
| Frederick                    | 0   | 0                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 0   | 1                        |
| District of Colum-<br>bia:   |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Washington                   | 15  | 44                     | 1   | 1                      | 0                       | 8   | 2   | 0                      | 0                       | 17  | 146                      |
| Virginia:                    |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Lynchburg                    | 0   | 0                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 1   | 17                       |
| Norfolk                      | 1   | 3                      | 0   | 1                      | 0                       | 2   | 0   | 0                      | 0                       | 0   |                          |
| Richmond                     | 2   | 6                      | 0   | 0                      | 0                       | 6   | 1   | 1                      | 0                       | 3   | 54                       |
| Roanoke                      | 0   | 1                      | 1   | 0                      | 0                       | 3   | 0   | 0                      | 0                       | 0   | 18                       |
| West Virginia:               |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Charleston                   | 0   | 1                      | 0   | 0                      | 0                       | 1   | 0   | 0                      | 1                       | 4   | 17                       |
| Wheeling                     | 2   | 0                      | 0   | 0                      | 0                       | 0   | 1   | 0                      | 0                       | 0   | 15                       |
| North Carolina:              |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Raleigh                      | 0   | 1                      | 0   | 3                      | 0                       | 0   | 1   | 0                      | 0                       | 7   | 8                        |
| Wilmington                   | 0   | 0                      | 0   | 2                      | 0                       | 0   | 0   | 1                      | 0                       | 0   | 18                       |
| Winston-Salem                | 1   | 6                      | 1   | 1                      | 0                       | 0   | 1   | 0                      | 0                       | 0   |                          |
| South Carolina:              |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Charleston                   | 0   | 0                      | 0   | 7                      | 0                       | 1   | 0   | 0                      | 0                       | 0   | 19                       |
| Columbia                     | 0   | 0                      | 1   | 0                      | 0                       | 0   | 2   | 0                      | 0                       | 3   | 16                       |
| Greenville                   | 0   | 0                      | 0   | 0                      | 0                       | 0   | 1   | 0                      | 0                       | 2   | 10                       |
| Georgia:                     |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Atlanta                      | 3   | 5                      | 6   | 2                      | 0                       | 7   | 2   | 0                      | 0                       | 0   | 95                       |
| Brunswick                    | 0   | 1                      | 0   | 0                      | 0                       | 0   | 1   | 0                      | 0                       | 0   | 5                        |
| Savannah                     | 0   | 1                      | 0   | 0                      | 0                       | 3   | 2   | 1                      | 0                       | 0   | 26                       |
| Florida:                     |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Miami                        | 0   | 0                      | 0   | 0                      | 0                       | 2   | 1   | 0                      | 0                       | 2   | 18                       |
| St. Petersburg               | 0   | 0                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 0   | 9                        |
| Tampa                        | 1   | 0                      | 0   | 0                      | 0                       | 1   | 1   | 2                      | 0                       | 0   | 28                       |
| EAST SOUTH CEN-<br>TRAL      |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Kentucky:                    |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Covington                    | 1   | 3                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 0   | 28                       |
| Louisville                   | 5   | 45                     | 1   | 0                      | 0                       | 7   | 1   | 0                      | 0                       | 0   | 91                       |
| Tennessee:                   |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Memphis                      | 3   | 4                      | 1   | 0                      | 0                       | 9   | 1   | 2                      | 0                       | 1   | 63                       |
| Nashville                    | 1   | 0                      | 1   | 5                      | 0                       | 2   | 1   | 0                      | 2                       | 0   | 48                       |
| Alabama:                     |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Birmingham                   | 1   | 0                      | 5   | 0                      | 0                       | 6   | 2   | 0                      | 0                       | 8   | 77                       |
| Mobile                       | 0   | 0                      | 1   | 0                      | 0                       | 1   | 1   | 0                      | 0                       | 0   | 20                       |
| Montgomery                   | 0   | 0                      | 1   | 0                      |                         |   | 1   | 0                      |                         | 2   |                          |
| WEST SOUTH CEN-<br>TRAL      |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Arkansas:                    |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Fort Smith                   | 1   | 2                      | 0   | 0                      |                         |   | 0   | 0                      |                         | 10  |                          |
| Little Rock                  | 1   | 4                      | 1   | 0                      | 0                       | 7   | 1   | 0                      | 0                       | 0   |                          |
| Louisiana:                   |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| New Orleans                  | 3   | 7                      | 1   | 1                      | 0                       | 14  | 2   | 4                      | 0                       | 4   | 165                      |
| Shreveport                   | 0   | 1                      | 1   | 0                      | 0                       | 3   | 1   | 2                      | 2                       | 1   | 27                       |
| Oklahoma:                    |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Tulsa                        | 0   | 4                      | 1   | 1                      |                         |   | 1   | 1                      |                         | 1   |                          |
| Texas:                       |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Dallas                       | 2   | 6                      | 2   | 3                      | 0                       | 1   | 1   | 1                      | 0                       | 20  | 39                       |
| Fort Worth                   | 1   | 3                      | 1   | 1                      | 0                       | 0   | 1   | 0                      | 1                       | 0   | 38                       |
| Galveston                    | 0   | 0                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 0   | 15                       |
| Houston                      | 0   | 2                      | 0   | 2                      | 0                       | 3   | 1   | 1                      | 0                       | 0   | 72                       |
| San Antonio                  | 0   | 1                      | 0   | 0                      | 0                       | 8   | 1   | 0                      | 0                       | 0   | 67                       |
| MOUNTAIN                     |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Montana:                     |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Billings                     | 2   | 0                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 1   | 3                        |
| Great Falls                  | 1   | 1                      | 1   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 0   | 10                       |
| Helena                       | 0   | 1                      | 0   | 2                      | 0                       | 1   | 0   | 0                      | 0                       | 0   | 7                        |
| Missoula                     | 0   | 0                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 0   | 8                        |

## City reports for week ended June 9, 1928—Continued

| Division, State,<br>and city | Scarlet fever                               |                        | Smallpox                                    |                        |                         | Tuber-<br>culosis,<br>deaths<br>re-<br>ported | Typhoid fever                               |                        |                         | Whoop-<br>ing<br>cough,<br>cases<br>re-<br>ported | Deaths,<br>all<br>causes |
|------------------------------|---|------------------------|---|------------------------|-------------------------|---|---|------------------------|-------------------------|---|--------------------------|
|                              | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |   | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |   |                          |
| MOUNTAIN—CON.                |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Idaho:                       |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Boise.....                   | 0   | 0                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 0   | 9                        |
| Colorado:                    |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Denver.....                  | 9   | 7                      | 1   | 0                      | 0                       | 7   | 0   | 1                      | 0                       | 31  | 72                       |
| Pueblo.....                  | 1   | 0                      | 0   | 0                      | 0                       | 1   | 0   | 0                      | 0                       | 0   | 9                        |
| New Mexico:                  |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Albuquerque..                | 0   | 0                      | 0   | 0                      | 0                       | 3   | 0   | 0                      | 0                       | 0   | 8                        |
| Utah:                        |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Salt Lake City..             | 2   | 3                      | 1   | 6                      | 0                       | 0   | 0   | 0                      | 0                       | 12  | 36                       |
| Nevada:                      |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Reno.....                    | 0   | 0                      | 0   | 0                      | 0                       | 0   | 0   | 0                      | 0                       | 0   | 5                        |
| PACIFIC                      |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Washington:                  |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Seattle.....                 | 9   | 5                      | 2   | 0                      |                         |   | 1   | 2                      |                         | 8   |                          |
| Spokane.....                 | 4   | 6                      | 3   | 5                      |                         |   | 0   | 0                      |                         | 1   |                          |
| Tacoma.....                  | 2   | 7                      | 3   | 0                      | 0                       | 2   | 0   | 0                      | 0                       | 0   | 26                       |
| Oregon:                      |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Portland.....                | 4   | 3                      | 7   | 16                     | 0                       | 4   | 0   | 0                      | 0                       | 0   | 103                      |
| California:                  |   |                        |   |                        |                         |   |   |                        |                         |   |                          |
| Los Angeles....              | 22  | 14                     | 6   | 0                      | 0                       | 25  | 2   | 0                      | 0                       | 69  | 226                      |
| Sacramento....               | 1   | 5                      | 1   | 0                      | 0                       | 1   | 1   | 0                      | 0                       | 3   | 32                       |
| San Francisco..              | 13  | 24                     | 1   | 0                      | 0                       | 6   | 1   | 2                      | 2                       | 12  | 160                      |

| Division, State, and city | Meningococcus meningitis |        | Lethargic encephalitis |        | Pellagra |        | Poliomyelitis (infantile paralysis) |        |
|---------------------------|--------------------------|--------|------------------------|--------|----------|--------|-------------------------------------|--------|
|                           | Cases                    | Deaths | Cases                  | Deaths | Cases    | Deaths | Cases, estimated expectancy         | Deaths |
| <b>NEW ENGLAND</b>        |                          |        |                        |        |          |        |                                     |        |
| Massachusetts:            |                          |        |                        |        |          |        |                                     |        |
| Boston.....               | 2                        | 1      | 0                      | 0      | 1        | 1      | 0                                   | 0      |
| <b>MIDDLE ATLANTIC</b>    |                          |        |                        |        |          |        |                                     |        |
| New York:                 |                          |        |                        |        |          |        |                                     |        |
| New York.....             | 31                       | 11     | 2                      | 2      | 0        | 0      | 1                                   | 0      |
| New Jersey:               |                          |        |                        |        |          |        |                                     |        |
| Camden.....               | 0                        | 0      | 0                      | 1      | 0        | 0      | 0                                   | 0      |
| Pennsylvania:             |                          |        |                        |        |          |        |                                     |        |
| Philadelphia..            | 2                        | 3      | 3                      | 2      | 0        | 0      | 0                                   | 0      |
| Pittsburgh....            | 3                        | 1      | 0                      | 0      | 0        | 0      | 1                                   | 0      |
| <b>EAST NORTH CENTRAL</b> |                          |        |                        |        |          |        |                                     |        |
| Ohio:                     |                          |        |                        |        |          |        |                                     |        |
| Cincinnati....            | 1                        | 2      | 0                      | 0      | 0        | 0      | 0                                   | 0      |
| Cleveland.....            | 4                        | 0      | 0                      | 1      | 0        | 0      | 0                                   | 0      |
| Columbus.....             | 0                        | 0      | 0                      | 0      | 0        | 0      | 0                                   | 1      |
| Indiana:                  |                          |        |                        |        |          |        |                                     |        |
| Indianapolis..            | 1                        | 1      | 0                      | 0      | 0        | 0      | 0                                   | 0      |
| Illinois:                 |                          |        |                        |        |          |        |                                     |        |
| Chicago.....              | 5                        | 2      | 2                      | 2      | 0        | 0      | 0                                   | 1      |
| Michigan:                 |                          |        |                        |        |          |        |                                     |        |
| Detroit.....              | 4                        | 3      | 0                      | 0      | 0        | 0      | 0                                   | 0      |
| Wisconsin:                |                          |        |                        |        |          |        |                                     |        |
| Milwaukee....             | 3                        | 0      | 0                      | 0      | 0        | 0      | 0                                   | 0      |
| <b>WEST NORTH CENTRAL</b> |                          |        |                        |        |          |        |                                     |        |
| Missouri:                 |                          |        |                        |        |          |        |                                     |        |
| Kansas City....           | 2                        | 2      | 0                      | 1      | 0        | 0      | 0                                   | 0      |
| St. Louis.....            | 3                        | 0      | 1                      | 0      | 0        | 0      | 0                                   | 0      |
| North Dakota:             |                          |        |                        |        |          |        |                                     |        |
| Fargo.....                | 0                        | 0      | 1                      | 0      | 0        | 0      | 0                                   | 0      |

## City reports for week ended June 9, 1928—Continued

| Division, State, and city     | Meningococcus meningitis |        | Lethargic encephalitis |        | Pellagra |        | Poliomyelitis (infantile paralysis) |       |        |
|-------------------------------|--------------------------|--------|------------------------|--------|----------|--------|-------------------------------------|-------|--------|
|                               | Cases                    | Deaths | Cases                  | Deaths | Cases    | Deaths | Cases, estimated expectancy         | Cases | Deaths |
| <b>SOUTH ATLANTIC</b>         |                          |        |                        |        |          |        |                                     |       |        |
| Maryland:                     |                          |        |                        |        |          |        |                                     |       |        |
| Baltimore.....                | 0                        | 0      | 1                      | 0      | 0        | 0      | 1                                   | 1     | 0      |
| North Carolina:               |                          |        |                        |        |          |        |                                     |       |        |
| Raleigh.....                  | 0                        | 0      | 0                      | 0      | 0        | 1      | 0                                   | 0     | 0      |
| Wilmington.....               | 0                        | 0      | 0                      | 0      | 0        | 1      | 0                                   | 0     | 0      |
| South Carolina:               |                          |        |                        |        |          |        |                                     |       |        |
| Charleston <sup>1</sup> ..... | 0                        | 1      | 0                      | 0      | 1        | 0      | 0                                   | 0     | 0      |
| Columbia.....                 | 0                        | 0      | 0                      | 0      | 0        | 1      | 0                                   | 0     | 0      |
| Georgia:                      |                          |        |                        |        |          |        |                                     |       |        |
| Atlanta.....                  | 1                        | 0      | 0                      | 0      | 4        | 0      | 0                                   | 0     | 0      |
| Florida:                      |                          |        |                        |        |          |        |                                     |       |        |
| Miami.....                    | 0                        | 0      | 0                      | 0      | 1        | 0      | 0                                   | 0     | 0      |
| <b>EAST SOUTH CENTRAL</b>     |                          |        |                        |        |          |        |                                     |       |        |
| Alabama:                      |                          |        |                        |        |          |        |                                     |       |        |
| Mobile.....                   | 0                        | 0      | 0                      | 0      | 1        | 0      | 0                                   | 0     | 0      |
| <b>WEST SOUTH CENTRAL</b>     |                          |        |                        |        |          |        |                                     |       |        |
| Arkansas:                     |                          |        |                        |        |          |        |                                     |       |        |
| Fort Smith.....               | 0                        | 0      | 0                      | 0      | 1        | 0      | 0                                   | 0     | 0      |
| Louisiana:                    |                          |        |                        |        |          |        |                                     |       |        |
| New Orleans.....              | 1                        | 0      | 0                      | 0      | 7        | 0      | 0                                   | 0     | 0      |
| Shreveport.....               | 0                        | 0      | 0                      | 0      | 0        | 1      | 0                                   | 0     | 0      |
| Texas:                        |                          |        |                        |        |          |        |                                     |       |        |
| Houston.....                  | 0                        | 2      | 0                      | 0      | 0        | 0      | 0                                   | 0     | 0      |
| San Antonio.....              | 0                        | 0      | 0                      | 0      | 0        | 1      | 0                                   | 0     | 0      |
| <b>MOUNTAIN</b>               |                          |        |                        |        |          |        |                                     |       |        |
| Colorado:                     |                          |        |                        |        |          |        |                                     |       |        |
| Denver.....                   | 1                        | 0      | 0                      | 0      | 0        | 0      | 0                                   | 0     | 0      |
| <b>PACIFIC</b>                |                          |        |                        |        |          |        |                                     |       |        |
| California:                   |                          |        |                        |        |          |        |                                     |       |        |
| Los Angeles.....              | 0                        | 0      | 0                      | 0      | 1        | 1      | 0                                   | 0     | 0      |
| Sacramento.....               | 0                        | 0      | 0                      | 0      | 2        | 3      | 0                                   | 0     | 0      |
| San Francisco.....            | 1                        | 1      | 0                      | 0      | 0        | 0      | 0                                   | 0     | 0      |

<sup>1</sup> Dengue: 1 case at Charleston, S. C.

The following table gives the rates per 100,000 population for 101 cities for the five-week period ended June 9, 1928, compared with those for a like period ended June 11, 1927. The population figures used in computing the rates are approximate estimates as of July 1, 1928 and 1927, respectively, authoritative figures for many of the cities not being available. The 101 cities reporting cases had estimated aggregate populations of approximately 31,657,000 in 1928 and 31,050,000 in 1927. The 95 cities reporting deaths had nearly 30,961,000 estimated population in 1928 and nearly 30,370,000 in 1927. The number of cities included in each group and the estimated aggregate populations are shown in a separate table below.

Summary of weekly reports from cities, May 6 to June 9, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927<sup>1</sup>

## DIPHTHERIA CASE RATES

|                         | Week ended—        |                    |                    |                    |                    |                    |                    |                    |                    |                     |
|-------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
|                         | May<br>12,<br>1928 | May<br>14,<br>1927 | May<br>19,<br>1928 | May<br>21,<br>1927 | May<br>26,<br>1928 | May<br>28,<br>1927 | June<br>2,<br>1928 | June<br>4,<br>1927 | June<br>9,<br>1928 | June<br>11,<br>1927 |
| 101 cities.....         | 121                | 174                | 137                | 174                | 128                | 171                | 122                | 158                | <sup>2</sup> 134   | <sup>2</sup> 161    |
| New England.....        | 113                | 105                | 110                | 153                | 64                 | 160                | 99                 | 160                | 97                 | 133                 |
| Middle Atlantic.....    | 177                | 282                | 204                | 267                | 213                | 233                | 178                | 234                | <sup>2</sup> 220   | 247                 |
| East North Central..... | 109                | 132                | 114                | 160                | 102                | 145                | 105                | 123                | 108                | 125                 |
| West North Central..... | 55                 | 135                | 95                 | 105                | 72                 | 91                 | 84                 | 81                 | <sup>2</sup> 50    | 81                  |
| South Atlantic.....     | 82                 | 115                | 103                | 110                | 109                | 144                | 93                 | 126                | 98                 | <sup>2</sup> 124    |
| East South Central..... | 35                 | 81                 | 20                 | 35                 | 35                 | 96                 | 45                 | 61                 | 20                 | 20                  |
| West South Central..... | 92                 | 112                | 64                 | 50                 | 28                 | 83                 | 56                 | 66                 | 60                 | 45                  |
| Mountain.....           | 71                 | 90                 | 97                 | 108                | 71                 | 143                | 71                 | 179                | 35                 | 368                 |
| Pacific.....            | 102                | 94                 | 120                | 104                | 92                 | 196                | 107                | 128                | 115                | 125                 |

## MEASLES CASE RATES

|                         |       |       |       |       |       |       |       |       |                    |                  |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|------------------|
| 101 cities.....         | 1,376 | 602   | 1,346 | 620   | 1,305 | 548   | 1,215 | 447   | <sup>2</sup> 1,025 | <sup>2</sup> 425 |
| New England.....        | 1,120 | 346   | 1,159 | 416   | 1,290 | 435   | 1,129 | 314   | 952                | 458              |
| Middle Atlantic.....    | 2,254 | 297   | 2,274 | 323   | 2,185 | 365   | 2,164 | 282   | 1,767              | 298              |
| East North Central..... | 788   | 450   | 680   | 492   | 773   | 372   | 661   | 324   | 688                | 295              |
| West North Central..... | 937   | 932   | 1,116 | 952   | 939   | 653   | 752   | 459   | <sup>2</sup> 609   | 372              |
| South Atlantic.....     | 1,704 | 1,546 | 1,436 | 1,537 | 1,219 | 1,358 | 1,021 | 1,001 | 833                | <sup>2</sup> 847 |
| East South Central..... | 1,082 | 345   | 1,237 | 355   | 1,077 | 319   | 1,037 | 380   | 763                | 157              |
| West South Central..... | 336   | 567   | 208   | 620   | 260   | 459   | 176   | 496   | 60                 | 418              |
| Mountain.....           | 1,141 | 1,300 | 1,150 | 906   | 831   | 1,049 | 991   | 619   | 734                | 565              |
| Pacific.....            | 327   | 1,259 | 263   | 1,215 | 304   | 1,060 | 217   | 1,094 | 174                | 1,136            |

## SCARLET FEVER CASE RATES

|                         |     |     |     |     |     |     |     |     |                  |                  |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------------------|------------------|
| 101 cities.....         | 253 | 340 | 253 | 309 | 234 | 294 | 206 | 219 | <sup>2</sup> 197 | <sup>2</sup> 240 |
| New England.....        | 347 | 439 | 292 | 432 | 306 | 365 | 248 | 288 | 290              | 323              |
| Middle Atlantic.....    | 285 | 474 | 279 | 415 | 267 | 363 | 200 | 255 | 190              | 286              |
| East North Central..... | 265 | 289 | 272 | 267 | 254 | 301 | 228 | 212 | 237              | 247              |
| West North Central..... | 242 | 319 | 279 | 289 | 207 | 245 | 232 | 236 | <sup>2</sup> 162 | 194              |
| South Atlantic.....     | 167 | 148 | 195 | 101 | 163 | 121 | 184 | 78  | 149              | <sup>2</sup> 109 |
| East South Central..... | 155 | 152 | 190 | 132 | 219 | 137 | 284 | 101 | 259              | 66               |
| West South Central..... | 184 | 21  | 216 | 33  | 204 | 25  | 144 | 21  | 92               | 33               |
| Mountain.....           | 115 | 726 | 133 | 986 | 18  | 897 | 71  | 780 | 106              | 717              |
| Pacific.....            | 204 | 201 | 143 | 167 | 130 | 209 | 148 | 185 | 156              | 204              |

## SMALLPOX CASE RATES

|                         |     |    |     |    |     |    |    |    |                 |                 |
|-------------------------|-----|----|-----|----|-----|----|----|----|-----------------|-----------------|
| 101 cities.....         | 18  | 21 | 24  | 26 | 17  | 29 | 13 | 21 | <sup>2</sup> 11 | <sup>2</sup> 20 |
| New England.....        | 0   | 0  | 0   | 0  | 9   | 0  | 0  | 0  | 0               | 0               |
| Middle Atlantic.....    | 0   | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 0               | 0               |
| East North Central..... | 20  | 20 | 22  | 37 | 16  | 49 | 10 | 33 | 9               | 21              |
| West North Central..... | 43  | 26 | 64  | 48 | 27  | 42 | 29 | 24 | <sup>2</sup> 22 | 32              |
| South Atlantic.....     | 21  | 38 | 32  | 36 | 26  | 40 | 12 | 32 | 30              | <sup>2</sup> 20 |
| East South Central..... | 45  | 56 | 30  | 76 | 60  | 61 | 45 | 91 | 25              | 106             |
| West South Central..... | 8   | 58 | 60  | 17 | 24  | 29 | 24 | 17 | 24              | 8               |
| Mountain.....           | 159 | 9  | 159 | 45 | 133 | 27 | 63 | 36 | 71              | 27              |
| Pacific.....            | 36  | 91 | 54  | 71 | 38  | 84 | 49 | 60 | 13              | 91              |

<sup>1</sup> The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1928 and 1927, respectively.

<sup>2</sup> Waterloo, Iowa, and Fargo, N. Dak., not included.

<sup>3</sup> Greenville, S. C., not included.

Summary of weekly reports from cities, May 6 to June 9, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927—Continued

## TYPHOID FEVER CASE RATES

|                         | Week ended—  |              |              |              |              |              |              |              |              |               |
|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
|                         | May 12, 1928 | May 14, 1927 | May 19, 1928 | May 21, 1927 | May 26, 1928 | May 28, 1927 | June 2, 1928 | June 4, 1927 | June 9, 1928 | June 11, 1927 |
| 101 cities.....         | 8            | 8            | 6            | 10           | 8            | 9            | 12           | 13           | 19           | 11            |
| New England.....        | 5            | 5            | 7            | 5            | 11           | 9            | 57           | 9            | 29           | 5             |
| Middle Atlantic.....    | 2            | 5            | 4            | 6            | 6            | 6            | 1            | 5            | 2            | 6             |
| East North Central..... | 3            | 3            | 2            | 5            | 5            | 7            | 3            | 7            | 10           | 6             |
| West North Central..... | 8            | 2            | 2            | 6            | 4            | 4            | 4            | 12           | 7            | 14            |
| South Atlantic.....     | 19           | 9            | 7            | 13           | 7            | 18           | 16           | 29           | 14           | 18            |
| East South Central..... | 20           | 66           | 20           | 56           | 10           | 30           | 65           | 61           | 11           | 41            |
| West South Central..... | 16           | 25           | 4            | 45           | 12           | 25           | 32           | 37           | 10           | 33            |
| Mountain.....           | 18           | 9            | 0            | 9            | 0            | 18           | 0            | 9            | 32           | 0             |
| Pacific.....            | 31           | 10           | 23           | 10           | 36           | 8            | 18           | 26           | 9            | 21            |
|                         |              |              |              |              |              |              |              |              | 10           |               |

## INFLUENZA DEATH RATES

| 95 cities.....          | 33 | 13 | 29 | 12 | 25 | 9  | 20 | 7  | 17 | 16 |
|-------------------------|----|----|----|----|----|----|----|----|----|----|
| New England.....        | 16 | 14 | 41 | 14 | 18 | 9  | 16 | 2  | 14 | 0  |
| Middle Atlantic.....    | 31 | 14 | 28 | 10 | 21 | 8  | 24 | 9  | 19 | 5  |
| East North Central..... | 43 | 10 | 36 | 12 | 33 | 4  | 21 | 4  | 17 | 4  |
| West North Central..... | 43 | 4  | 18 | 8  | 12 | 12 | 14 | 6  | 14 | 4  |
| South Atlantic.....     | 9  | 25 | 16 | 11 | 11 | 13 | 9  | 16 | 9  | 19 |
| East South Central..... | 73 | 32 | 63 | 43 | 89 | 27 | 26 | 5  | 52 | 11 |
| West South Central..... | 37 | 13 | 16 | 25 | 33 | 25 | 25 | 17 | 33 | 25 |
| Mountain.....           | 27 | 9  | 27 | 9  | 53 | 9  | 44 | 0  | 0  | 9  |
| Pacific.....            | 17 | 7  | 10 | 0  | 7  | 3  | 7  | 3  | 7  | 7  |

## PNEUMONIA DEATH RATES

| 95 cities.....          | 210 | 123 | 189 | 110 | 176 | 100 | 145 | 93  | 126 | 93  |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| New England.....        | 257 | 144 | 207 | 100 | 253 | 144 | 172 | 116 | 168 | 58  |
| Middle Atlantic.....    | 267 | 151 | 218 | 119 | 211 | 116 | 182 | 107 | 147 | 112 |
| East North Central..... | 232 | 97  | 222 | 104 | 175 | 85  | 130 | 79  | 115 | 93  |
| West North Central..... | 120 | 70  | 85  | 58  | 84  | 87  | 59  | 58  | 64  | 50  |
| South Atlantic.....     | 89  | 128 | 146 | 148 | 119 | 85  | 137 | 112 | 130 | 64  |
| East South Central..... | 193 | 128 | 240 | 112 | 230 | 64  | 204 | 53  | 157 | 117 |
| West South Central..... | 164 | 140 | 123 | 106 | 144 | 89  | 127 | 81  | 107 | 102 |
| Mountain.....           | 133 | 54  | 97  | 63  | 124 | 36  | 106 | 72  | 88  | 90  |
| Pacific.....            | 98  | 114 | 105 | 121 | 91  | 100 | 71  | 97  | 81  | 83  |

<sup>1</sup> Waterloo, Iowa, and Fargo, N. Dak., not included.

<sup>2</sup> Greenville, S. C., not included.

<sup>3</sup> Fargo, N. Dak., not included.

Number of cities included in summary of weekly reports, and aggregate population of cities in each group, approximated as of July 1, 1928 and 1927, respectively

| Group of cities         | Number of cities reporting cases | Number of cities reporting deaths | Aggregate population of cities reporting cases |            | Aggregate population of cities reporting deaths |            |
|-------------------------|----------------------------------|-----------------------------------|--|------------|---|------------|
|                         |                                  |                                   | 1928   | 1927       | 1928  | 1927       |
| Total.....              | 101                              | 95                                | 31,657,000                                     | 31,050,300 | 30,960,700                                      | 30,369,500 |
| New England.....        | 12                               | 12                                | 2,274,400                                      | 2,242,700  | 2,274,400                                       | 2,242,700  |
| Middle Atlantic.....    | 10                               | 10                                | 10,732,400                                     | 10,594,700 | 10,732,400                                      | 10,594,700 |
| East North Central..... | 16                               | 16                                | 7,991,400                                      | 7,820,700  | 7,991,400                                       | 7,820,700  |
| West North Central..... | 12                               | 10                                | 2,683,500                                      | 2,634,500  | 2,566,400                                       | 2,518,500  |
| South Atlantic.....     | 21                               | 21                                | 2,981,900                                      | 2,890,700  | 2,981,900                                       | 2,890,700  |
| East South Central..... | 7                                | 6                                 | 1,048,300                                      | 1,028,300  | 1,000,100                                       | 980,700    |
| West South Central..... | 8                                | 7                                 | 1,307,600                                      | 1,260,700  | 1,274,100                                       | 1,227,800  |
| Mountain.....           | 9                                | 9                                 | 591,100  | 581,600    | 591,100   | 581,600    |
| Pacific.....            | 6                                | 4                                 | 2,046,400                                      | 1,996,400  | 1,548,900                                       | 1,512,100  |



## FOREIGN AND INSULAR

### THE FAR EAST

*Report for the week ended June 2, 1928.*—The following report for the week ended June 2, 1928, was transmitted by the Eastern Bureau of the Health Section of the Secretariat of the League of Nations, located at Singapore, to the headquarters at Geneva:

Plague, cholera, or smallpox was reported present in the following ports:

| PLAGUE  |  | SMALLPOX                                  |  |
|---|--|---|--|
| Ceylon.—Colombo.                                      |  | India.—Bombay, Calcutta, Madras, Rangoon. |  |
| India.—Bassein, Bombay, Rangoon.                      |  | French India.—Pondicherry.                |  |
| China.—Amoy.  |  | Dutch East Indies.—Belawan-Deli.          |  |
| CHOLERA   |  | China.—Shanghai, Hong Kong.               |  |
| India.—Bassein, Calcutta, Madras, Moulemein, Rangoon. |  | Japan.—Kobe.                              |  |
| Siam.—Bangkok.  |  | Kwantung.—Dairen, Port Arthur.            |  |
| French Indo-China.—Haiphong, Saigon.                  |  | Manchuria.—Changchun, Mukden.             |  |
| China.—Canton.  |  | Korea.—Fusan.                             |  |

### BRAZIL

*Bahia—Interior of Province—Yellow fever.*—Under date of June 20, 1928, three cases of yellow fever were reported at Bahia, with spread of the disease in the interior. Two of the reported cases at Bahia were stated to be mild.

### CANADA

*Provinces—Communicable diseases—Week ended June 2, 1928.*—The Canadian Ministry of Health reports cases of certain communicable diseases from five Provinces of Canada for the week ended June 2, 1928, as follows:

| Disease                     | Nova Scotia | New Brunswick | Quebec | Ontario | Alberta | Total |
|-----------------------------|-------------|---------------|--------|---------|---------|-------|
| Cerebrospinal fever.....    |             |               | 2      | 3       |         | 5     |
| Influenza.....              | 15          |               |        | 9       |         | 24    |
| Lethargic encephalitis..... |             |               |        | 2       |         | 2     |
| Poliomyelitis.....          |             |               |        | 1       |         | 1     |
| Smallpox.....               |             |               | 19     | 8       | 1       | 28    |
| Typhoid fever.....          |             |               | 10     | 9       |         | 19    |

*Quebec—Communicable diseases—Week ended June 9, 1928.*—The Bureau of Health of the Province of Quebec reports cases of certain communicable diseases for the week ended June 9, 1928, as follows:

| Disease             | Cases | Disease             | Cases |
|---------------------|-------|---------------------|-------|
| Chicken pox.....    | 17    | Scarlet fever.....  | 85    |
| Diphtheria.....     | 35    | Smallpox.....       | 21    |
| German measles..... | 7     | Tuberculosis.....   | 2     |
| Influenza.....      | 4     | Typhoid fever.....  | 12    |
| Measles.....        | 136   | Whooping cough..... | 6     |

*Vital statistics—April, 1928.*—Births and deaths in the Province of Quebec for the month of April, 1928, were reported as follows:

|                                      |           |                                     |     |
|--------------------------------------|-----------|-------------------------------------|-----|
| Estimated population.....            | 2,650,400 | Deaths from—Continued.              |     |
| Births.....                          | 6,635     | Influenza.....                      | 100 |
| Birth rate per 1,000 population..... | 30.5      | Measles.....                        | 40  |
| Deaths.....                          | 2,984     | Pneumonia.....                      | 371 |
| Death rate per 1,000 population..... | 13.7      | Poliomyelitis.....                  | 2   |
| Deaths under 1 year.....             | 886       | Scarlet fever.....                  | 17  |
| Infant mortality rate.....           | 133.5     | Smallpox.....                       | 0   |
| Deaths from—                         |           | Syphilis.....                       | 5   |
| Cancer.....                          | 125       | Tuberculosis (pulmonary).....       | 279 |
| Cerebrospinal meningitis.....        | 5         | Tuberculosis (all other forms)..... | 55  |
| Diabetes.....                        | 22        | Typhoid fever.....                  | 16  |
| Diarrhea.....                        | 112       | Violence.....                       | 67  |
| Diphtheria.....                      | 27        | Whooping cough.....                 | 30  |
| Heart disease.....                   | 248       |                                     |     |

### GREAT BRITAIN

*England and Wales—Vital statistics—January to March, 1928.*—During the first quarter of the year 1928, 168,099 births and 136,315 deaths were registered in England and Wales, giving a birth rate on an annual basis, of 17.4 per 1,000 population and a death rate of 14.1 per 1,000. The infant mortality was 80 per 1,000 births.

During the 13 weeks ended March 31, 1928, communicable diseases were notified in England and Wales as follows:

| Disease                    | Cases  | Disease                | Cases  |
|----------------------------|--------|------------------------|--------|
| Diphtheria.....            | 18,433 | Puerperal pyrexia..... | 1,526  |
| Ophthalmia neonatorum..... | 1,437  | Scarlet fever.....     | 23,411 |
| Pneumonia.....             | 22,296 | Smallpox.....          | 4,730  |
| Puerperal fever.....       | 630    | Typhoid fever.....     | 622    |

*Scotland—Vital statistics—January to March, 1928.*—The Registrar-General of Scotland has published statistics for the first quarter of 1928 which show that the birth rate for Scotland for that quarter was 19.9 per 1,000 population, the death rate 15.9 per 1,000, and the deaths of infants under 1 year of age was 107 per 1,000 births.

The following items are taken from quarterly returns of births, deaths, and marriages registered in Scotland during the quarter ended March 31, 1928:

|   |        |                                     |       |
|---|--------|-------------------------------------|-------|
| Births.....                                 | 24,246 | Deaths from—Continued.              |       |
| Marriages.....                              | 7,382  | Lethargic encephalitis.....         | 24    |
| Deaths (total).....                         | 19,385 | Malaria.....                        | 2     |
| Deaths under 1 year.....                    | 2,594  | Measles.....                        | 558   |
| Deaths from—                                |        | Nephritis (acute).....              | 59    |
| Bronchitis.....                             | 1,200  | Nephritis (chronic).....            | 485   |
| Bronchopneumonia.....                       | 1,017  | Paratyphoid fever.....              | 6     |
| Cancer.....                                 | 1,736  | Pneumonia.....                      | 1,030 |
| Cerebrospinal meningitis.....               | 42     | Poliomyelitis.....                  | 6     |
| Diabetes.....                               | 133    | Puerperal sepsis.....               | 72    |
| Diarrhea and enteritis (under 2 years)..... | 145    | Scarlet fever.....                  | 47    |
| Diphtheria.....                             | 191    | Syphilis.....                       | 29    |
| Dysentery.....                              | 2      | Tetanus.....                        | 2     |
| Heart disease.....                          | 2,397  | Tuberculosis (pulmonary).....       | 848   |
| Influenza—                                  |        | Tuberculosis (all other forms)..... | 391   |
| Sole cause.....                             | 81     | Typhoid fever.....                  | 12    |
| With other causes.....                      | 350    | Whooping cough.....                 | 361   |

## GREECE

*Corfu—Plague—June 20, 1928.*—Under date of June 20, 1928, 15 cases of plague with 3 deaths were reported at Corfu, Greece.

## NOVA SCOTIA

*Halifax—Communicable diseases—1926-27.*—The report of the City Health Department of Halifax, Nova Scotia, for the year ended April 30, 1928, shows a decided decrease in the prevalence of communicable diseases as compared with the preceding year.

The numbers of reported cases of certain communicable diseases in Halifax for the years ended April 30, 1927, and April 30, 1928, are shown in the table below:

| Disease                       | 1926-27 | 1927-28 | Disease             | 1926-27 | 1927-28 |
|-------------------------------|---------|---------|---------------------|---------|---------|
| Cancer.....                   | 4       | 1       | Poliomyelitis.....  | 1       | 2       |
| Cerebrospinal meningitis..... | 1       | 2       | Scarlet fever.....  | 193     | 162     |
| Chicken pox.....              | 9       | 13      | Smallpox.....       | 0       | 2       |
| Diphtheria.....               | 123     | 84      | Tuberculosis.....   | 20      | 17      |
| Erysipelas.....               | 1       | 20      | Typhoid fever.....  | 1       | 6       |
| Measles.....                  | 296     | 2       | Whooping cough..... | 100     | 4       |
| Paratyphoid fever.....        |         |         |                     |         |         |

## VENEZUELA

*Births and deaths, 1922-1926.*—The following table gives the numbers of births and deaths in Venezuela for the years 1922 to 1926, inclusive. The population of Venezuela is given as 2,490,604 in 1923 and 3,026,878 in 1926.

| Year      | Births | Deaths | Year      | Births | Deaths |
|-----------|--------|--------|-----------|--------|--------|
| 1922..... | 76,385 | 56,498 | 1925..... | 95,741 | 51,782 |
| 1923..... | 82,137 | 54,509 | 1926..... | 91,648 | 60,092 |
| 1924..... | 81,750 | 54,261 |           |        |        |

**CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER**

From medical officers of the Public Health Service, American consuls, health section of the League of Nations, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

## CHOLERA

(C indicates cases; D, deaths; P, present)

| Place                           | Ordn.<br>23-<br>Nov.<br>19, 1927 | Nov.<br>20-<br>Dec.<br>17, 1927 | Dec. 18,<br>1927-<br>Jan. 14,<br>1928 | Jan. 15-<br>Feb. 11,<br>1928 | Feb.<br>12-<br>Mar.<br>10, 1928 | Week ended— |        |        |             |     |     |           |     |     |                  |    |    |
|---------------------------------|----------------------------------|---------------------------------|---------------------------------------|------------------------------|---------------------------------|-------------|--------|--------|-------------|-----|-----|-----------|-----|-----|------------------|----|----|
|                                 |                                  |                                 |                                       |                              |                                 | March, 1928 |        |        | April, 1928 |     |     | May, 1928 |     |     | June,<br>2, 1928 |    |    |
|                                 |                                  |                                 |                                       |                              |                                 | 17          | 24     | 31     | 7           | 14  | 21  | 28        | 5   | 12  |                  | 19 | 26 |
| China:                          |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
| Canton                          | 12                               | 1                               |                                       |                              |                                 |             | 1      | 1      |             |     |     |           |     |     |                  | 1  | 1  |
| Swatow                          | 11                               | 1                               |                                       |                              |                                 |             | 1      | 1      |             |     |     |           |     |     |                  |    |    |
| Tientsin                        | P                                |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
| Dutch East Indies: Java—Batavia | P                                |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
| India:                          | 28                               | 3                               |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
| Bassein                         | 23, 047                          | 18, 377                         | 12, 391                               | 13, 236                      | 7, 746                          | 7, 897      | 5, 529 | 5, 856 |             |     |     |           |     |     |                  |    |    |
| Bombay                          | 12, 863                          | 13, 026                         | 8, 863                                | 7, 252                       | 2, 931                          | 3, 182      | 3, 189 | 4, 920 | 5, 157      |     |     |           |     |     |                  |    |    |
| Calcutta                        | 2                                |                                 | 1                                     | 2                            | 1                               | 2           | 2      | 20     | 6           | 6   | 9   | 9         | 16  | 8   |                  |    |    |
| Madras                          | 199                              | 428                             | 156                                   | 203                          | 341                             | 164         | 190    | 148    | 162         | 163 | 131 | 152       | 102 | 92  |                  |    |    |
| Madras Presidency               | 13                               | 1                               | 1                                     | 2                            | 14                              | 94          | 122    | 114    | 111         | 97  | 105 | 115       | 196 | 102 |                  |    |    |
| Nagapatam                       | 7                                | 2                               | 1                                     | 18                           | 2                               | 2           | 2      | 1      | 1           | 4   | 5   | 4         | 5   | 3   |                  |    |    |
| Rangoon                         | 3, 073                           | 3, 702                          | 1, 864                                | 2, 061                       | 510                             | 455         | 243    | 275    |             |     |     |           |     |     |                  |    |    |
| Tuticorin                       | 1, 736                           | 2, 104                          | 984                                   | 1, 618                       | 280                             | 244         | 131    | 157    |             |     |     |           |     |     |                  |    |    |
| India (French):                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
| Chandernagor                    | 2                                | 8                               | 4                                     | 6                            | 4                               | 4           | 7      | 8      | 3           | 5   | 10  | 7         | 1   | 1   |                  |    |    |
| Karikal                         | 5                                | 6                               | 3                                     | 2                            | 18                              | 2           | 3      | 6      | 5           | 2   | 7   | 5         | 1   | 1   |                  |    |    |
| Pondicherry                     | 37                               | 14                              |                                       |                              |                                 | 1           |        |        | 10          | 43  | 45  | 19        | 3   | 3   |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        | 8           | 26  | 32  | 10        |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 |                                       |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |
|                                 |                                  |                                 | </                                    |                              |                                 |             |        |        |             |     |     |           |     |     |                  |    |    |











| Place  | July-<br>Sep-<br>tem-<br>ber,<br>1927 | Octo-<br>ber,<br>1927 | Janu-<br>ary,<br>1928 | Feb-<br>ruary,<br>1928 | March,<br>1928 | April,<br>1928 | May,<br>1928 | June,<br>1928 | July,<br>1928 | Aug.,<br>1928 | Sept.,<br>1928 | Oct.,<br>1928 | Nov.,<br>1928 | Dec.,<br>1928 | Total |
|--|---------------------------------------|-----------------------|-----------------------|------------------------|----------------|----------------|--------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------|
| Siam.....  | C                                     | 2                     | 3                     | 16                     | 20             | 42             | 7            | 8             | 13            | 5             | 6              | 11            | 8             | 2             | 3     |
| Ayudhya.....   | D                                     | 1                     | 2                     | 11                     | 12             | 36             | 6            | 9             | 10            | 5             | 4              |               |               | 2             |       |
| Bangkok.....   | D                                     | 1                     | 2                     | 1                      | 2              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Nagara.....  | D                                     | 1                     | 1                     | 1                      | 1              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Straits Settlements: Singapore.....                              | D                                     | 1                     | 1                     | 1                      | 1              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Syria (see table below).....                                     | D                                     | 1                     | 1                     | 1                      | 1              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Tunisia.....   | D                                     | 1                     | 1                     | 1                      | 1              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Turkey: Constantinople.....                                      | D                                     | 1                     | 1                     | 1                      | 1              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Union of South Africa:<br>Cape Province.....                     | D                                     | 1                     | 1                     | 1                      | 1              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Orange Free State.....   | D                                     | 1                     | 1                     | 1                      | 1              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Venezuela: State of Miranda—Tocota and<br>Cus.....               | D                                     | 1                     | 1                     | 1                      | 1              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| On S. S. Cadwallen, at La Plata, from Rosario,<br>Argentina..... | C                                     | 1                     | 1                     | 1                      | 1              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| S. S. Aphios Gerassimos, at Vigo, Spain.....                     | C                                     | 1                     | 1                     | 1                      | 1              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| S. S. Tymeric, at Barbados, from New Or-<br>leans.....           | C                                     | 1                     | 1                     | 1                      | 1              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Algeria (see also table above):<br>Algers.....                   | C                                     | 2                     | 3                     | 18                     | 15             | 5              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Angola.....  | C                                     | 1                     | 1                     | 1                      | 1              | 1              | 1            | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| British East Africa (see also table<br>above):<br>Kenya.....     | C                                     | 95                    | 62                    | 25                     | 24             | 10             | 17           | 5             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Ecudor: Guayaquil.....   | C                                     | 15                    | 18                    | 4                      | 6              | 10             | 10           | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Plague-infected rats.....  | D                                     | 34                    | 31                    | 23                     | 31             | 21             | 16           | 1             | 1             | 1             | 1              | 1             | 1             | 1             | 1     |
| Indo-China (French).....   | C                                     | 14                    | 10                    | 7                      | 7              | 5              | 9            | 16            | 10            | 10            | 10             | 10            | 10            | 10            | 10    |
| Kwangchow-Wan.....   | C                                     | 314                   | 602                   | 427                    | 342            | 171            | 18           | 17            | 17            | 17            | 17             | 17            | 17            | 17            | 17    |
| Madagascar.....  | C                                     | 286                   | 388                   | 317                    | 317            | 159            | 159          | 159           | 159           | 159           | 159            | 159           | 159           | 159           | 159   |
| Amboitra Province.....   | C                                     | 7                     | 17                    | 105                    | 67             | 30             | 30           | 30            | 30            | 30            | 30             | 30            | 30            | 30            | 30    |
| Antsirabe Province.....  | D                                     | 30                    | 109                   | 117                    | 108            | 56             | 56           | 56            | 56            | 56            | 56             | 56            | 56            | 56            | 56    |
| Syria: Beirut.....   | D                                     | 38                    | 108                   | 117                    | 108            | 54             | 54           | 54            | 54            | 54            | 54             | 54            | 54            | 54            | 54    |

28 cases of plague with 6 deaths were reported in Bengardane region, Tunisia, Mar. 17 to 27, 1928.

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

## PLAGUE RATS ON VESSELS

S. S. *Modeni* at Göteborg, Sweden, from Bahia and Buenos Aires via Cape Verde Islands, December 22, 1927.  
 S. S. *Gydeore* at Landskrona, Sweden, from Rosario via Canary Islands, January 22, 1928.  
 S. S. *Drigden* at Liverpool from La Plata River ports, January 20, 1928.  
 S. S. *Sicily* at Liverpool from Buenos Aires and Rosario, June 8, 1928, 7 plague-infected rats.

## SMALLPOX

[C indicates cases; D, deaths; P, present]

| Place                                       | Oct.<br>23-<br>Nov.<br>19,<br>1927 | Nov.<br>20-<br>Dec.<br>17,<br>1927 | Dec.<br>18,<br>1927-<br>Jan.<br>14,<br>1928 | Jan.<br>15-<br>Feb.<br>11,<br>1928 | Feb.<br>12-<br>Mar.<br>10,<br>1928 | Week ended— |    |    |             |    |    |           |     |    |            |    |   |
|---|------------------------------------|------------------------------------|---|------------------------------------|------------------------------------|-------------|----|----|-------------|----|----|-----------|-----|----|------------|----|---|
|   |                                    |                                    |   |                                    |                                    | March, 1928 |    |    | April, 1928 |    |    | May, 1928 |     |    | June, 1928 |    |   |
|   |                                    |                                    |   |                                    |                                    | 17          | 24 | 31 | 7           | 14 | 21 | 28        | 5   | 12 | 19         | 26 | 3 |
| Algeria (see also table below)              | C 661                              | 170                                | 129   | 71                                 | 72                                 | 3           |    |    |             |    |    |           |     |    |            |    |   |
| Algiers.....                                | C 3                                | 9                                  | 15  | 10                                 | 10                                 |             |    | 2  | 1           | 12 | 2  |           | 2   | 1  | 1          | 3  |   |
| Oran.....                                   | C 20                               | 39                                 | 29  | 11                                 | 5                                  |             | 2  | 10 |             | 3  | 1  | 2         | 11  | 4  | 1          |    |   |
| Angola (see table below)                    | C 1                                | 3                                  | 1   |                                    |                                    | 1           |    |    |             |    |    |           |     |    |            |    |   |
| Arabia: Aden.....                           | C 1                                |                                    |   |                                    |                                    |             |    |    |             |    |    |           |     |    |            |    |   |
| Brazil (see also table below):              | D 1                                |                                    |   |                                    |                                    | 1           |    |    |             |    |    |           |     |    |            |    |   |
| Rio de Janeiro.....                         | D 1                                |                                    |   |                                    |                                    | 1           |    |    |             |    |    |           |     |    |            |    |   |
| British East Africa (see also table below): |                                    |                                    |   |                                    |                                    |             |    |    |             |    |    |           |     |    |            |    |   |
| Kenya—Mombasa.....                          | C P                                | P                                  | 8   | 5                                  |                                    |             | 1  |    | 1           |    |    |           | 1   |    |            |    |   |
| Tanganyika.....                             | D P                                |                                    |   |                                    |                                    |             |    |    |             |    |    |           |     |    |            |    |   |
| British South Africa:                       |                                    |                                    |   |                                    |                                    |             |    |    |             |    |    |           |     |    |            |    |   |
| Northern Rhodesia.....                      | C 185                              | 252                                | 236   | 233                                | 297                                |             | 54 | 8  | 5           | 26 | 7  | 4         | 591 |    |            |    |   |
| Southern Rhodesia.....                      | D 64                               | 62                                 | 31  | 23                                 | 42                                 |             | 9  | 2  | 1           | 21 | 1  | 1         | 48  |    |            |    |   |
| Canada:                                     | C 3                                | 2                                  | 1   | 3                                  | 1                                  |             | 4  | 1  |             | 10 | 3  |           | 13  |    |            |    |   |
| Alberta.....                                | C 10                               | 10                                 | 11  | 27                                 | 10                                 | 7           | 20 | 7  | 13          | 4  | 2  | 3         | 3   | 13 | 10         | 18 | 1 |
| Calgary.....                                | C 1                                |                                    |   |                                    |                                    | 1           |    |    |             |    |    |           |     |    |            |    |   |
| Edmonton.....                               | C 1                                | 8                                  | 5   | 3                                  | 13                                 | 1           | 11 | 1  | 7           | 2  |    |           | 1   | 12 | 10         |    |   |
| British Columbia—Vancouver.....             | C 4                                | 8                                  | 8   | 26                                 | 10                                 | 2           | 5  | 6  | 4           | 11 | 6  | 1         | 6   | 4  | 2          | 5  | 1 |
| Manitoba.....                               | C 19                               | 7                                  | 11  | 1                                  | 1                                  |             |    |    |             |    |    |           | 7   |    |            |    |   |
| Winnipeg.....                               | C 2                                | 2                                  | 2   | 2                                  |                                    |             |    |    |             |    |    |           |     |    |            |    |   |
| New Brunswick.....                          | C 1                                |                                    |   |                                    |                                    |             |    |    |             |    |    |           |     |    |            |    |   |
| Ontario.....                                | C 264                              | 347                                | 212   | 243                                | 147                                | 1           | 35 | 20 | 9           | 6  | 18 | 18        | 8   | 15 | 12         | 6  | 8 |
| Hamilton.....                               | C 2                                |                                    |   |                                    |                                    |             |    |    |             |    |    |           |     |    |            |    |   |
| Kingston.....                               | C 1                                |                                    |   | 1                                  |                                    |             |    |    |             |    |    |           |     |    |            |    |   |
| Ottawa.....                                 | C 134                              | 63                                 | 60  | 68                                 | 22                                 | 6           | 8  | 10 | 2           | 2  | 3  | 1         | 1   | 4  | 4          | 2  |   |
| Toronto.....                                | C 34                               | 30                                 | 25  | 20                                 | 14                                 | 2           | 3  | 3  | 1           | 2  | 4  | 4         | 1   | 2  | 7          | 3  |   |







|  |   |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
|--|---|----|----|----|----|----|----|---|----|----|----|---|----|---|---|
| Pondicherry.....                           | C | 42 | 41 | 65 | 47 | 0  | 6  | 5 | 7  | 12 | 15 | 9 | 16 | 7 | 9 |
| Indo-China (see also table below):         | D | 42 | 41 | 50 | 47 | 0  | 6  | 5 | 7  | 12 | 15 | 9 | 16 | 6 | 1 |
| Sigon.....                                 | C |    | 1  | 3  |    | 3  |    |   |    |    |    |   |    |   |   |
| Iraq:                                      | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Baghdad.....                               | C | 5  | 25 | 23 | 19 | 7  | 3  | 1 | 1  | 1  | 3  | 1 | 6  | 3 | 7 |
| Basra.....                                 | D | 4  | 14 | 12 | 11 | 4  | 3  | 1 |    | 1  | 1  | 2 | 1  | 2 | 3 |
| Basra.....                                 | C | 3  | 4  | 2  | 1  | 7  | 4  | 1 |    |    | 1  | 1 |    | 1 | 1 |
| Basra.....                                 | D | 1  | 3  | 1  |    |    | 1  | 1 |    |    | 1  |   |    | 2 | 2 |
| Italy:                                     | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Laghorn.....                               | C |    |    |    |    | 1  | 1  |   |    |    |    |   |    |   |   |
| Palermo.....                               | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Rome and vicinity.....                     | C |    |    |    | 3  |    |    |   |    |    |    |   |    |   |   |
| Rome and vicinity.....                     | C |    |    |    | 5  | 10 | 3  | 2 | 2  | 1  | 3  | 3 | 2  | 4 |   |
| Jamaica (outside Kingston) (alastim)       | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Japan:                                     | C | 7  | 3  | 2  | 5  |    | 2  | 1 | 7  |    | 1  | 2 | 1  | 1 |   |
| Kobe.....                                  | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Nagoya.....                                | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Tokyo.....                                 | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Tokyo Prefecture.....                      | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Yokohama.....                              | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Latvia (see table below).                  | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Mauretania.....                            | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Mexico (see also table below):             | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Acapulco.....                              | C | 1  |    |    |    | P  |    |   |    |    |    |   |    |   |   |
| Chihuahua.....                             | D | 1  |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Jalisco (State).....                       | D |    |    | 1  |    |    |    |   |    |    |    |   |    |   |   |
| Guadalupe.....                             | D |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Manzanillo.....                            | D |    | 2  |    |    | P  | P  | P | 2  | P  | P  | P | 4  | 7 | 4 |
| Mazatlan.....                              | D |    |    | 1  |    | 1  | 1  |   |    |    |    |   |    |   |   |
| Mexico City and surrounding territory..... | D |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Saltillo.....                              | D |    | 4  |    | 2  | 2  |    |   |    |    |    |   |    |   |   |
| Tampico.....                               | D |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Morocco (see table below):                 | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Nigeria (see also table below):            | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Lagos.....                                 | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Southern Provinces.....                    | D |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Palestine: Jerusalem.....                  | D |    | 1  |    |    |    |    |   |    |    |    |   |    |   |   |
| Persia (see table below).                  | D |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Poland.....                                | D |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Portugal (see also table below):           | C |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Lisbon.....                                | D | 4  | 10 | 12 | 12 | 20 |    | 2 | 3  |    | 3  | 2 | 1  |   |   |
| Lisbon.....                                | D |    | 1  |    |    | 1  |    |   |    |    |    |   |    |   |   |
| Oporto.....                                | D |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Senegal (see also table below):            | D |    |    |    |    |    |    |   |    |    |    |   |    |   |   |
| Dakar.....                                 | D |    |    |    |    | 34 | 17 |   | 12 | 5  | 11 |   | 12 | 7 | 3 |



| Place                                      | January, 1928        |                        |      | February, 1928 |       |       | March, 1928 |       |       | April, 1928 |       |       | May, 1928 |       |       |
|--|----------------------|------------------------|------|----------------|-------|-------|-------------|-------|-------|-------------|-------|-------|-----------|-------|-------|
|  | July-September, 1927 | October-December, 1927 | 1928 | 1-10           | 11-20 | 21-29 | 1-10        | 11-20 | 21-31 | 1-10        | 11-20 | 21-30 | 1-10      | 11-20 | 21-31 |
| Alexia (see also table above)              | 1,217                | 682                    |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Oran                                       | 51                   | 51                     |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Indo-China (French) (see also table above) | 68                   | 97                     | 38   | 50             | 31    | 90    | 57          | 71    | 69    |             | 35    |       | 36        | 6     | 37    |
| Ivory Coast                                |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Senegal (see also table above)             |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Dakar                                      |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Sudan (French)                             |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Syria                                      |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Aleppo                                     |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Beirut                                     | 1                    | 2                      | 15   | 11             | 5     | 1     | 12          | 7     | 4     | 3           | 5     | 1     | 2         | 3     |       |
| Damascus                                   | 47                   | 13                     |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Angola                                     | 51                   | 151                    |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Congo                                      | 5                    | 77                     |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Cuanza-Norte                               | 1                    |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Cuanza-Sul                                 | 1                    | 9                      |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Loanda                                     | 1                    | 5                      |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Zaire                                      | 3                    | 5                      |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Brazil (see also table above)              | 11                   | 5                      |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Porto Alegre                               |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| British East Africa (see also table above) |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Zanzibar                                   |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Chosen                                     | 21                   | 1                      |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Seoul                                      | 6                    | 1                      |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Ecuador                                    | 4                    | 6                      |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Guayaquil                                  | 37                   | 25                     |      |                |       |       |             |       |       |             |       |       |           |       |       |
| France                                     |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Gold Coast                                 |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Greece                                     |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Latvia                                     |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Mexico (see also table above)              |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Morocco                                    |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Nigeria (see also table above)             |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Persia                                     |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Portugal (see also table above)            |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Spain (see also table above)               |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Madrid                                     |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| U. S. R.                                   |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Railways, etc.                             |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Other territories in Europe                |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Transcaucasus, Siberia, and Central Asia   |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |
| Ukraine                                    |                      |                        |      |                |       |       |             |       |       |             |       |       |           |       |       |







CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued  
TYPHUS FEVER—Continued

| Place                              | July-September, 1927 | October-December, 1927 | January, 1928 | February, 1928 | March, 1928 | April, 1928 | Place   | July-September, 1927 | October-December, 1927 | January, 1928 | February, 1928 | March, 1928 | April, 1928 |
|------------------------------------|----------------------|------------------------|---------------|----------------|-------------|-------------|---|----------------------|------------------------|---------------|----------------|-------------|-------------|
| China (see also table above):      |                      |                        |               |                |             |             | Peru:   |                      |                        |               |                |             |             |
| Shanghai.....                      | D                    | 1                      | 183           | 400            | 513         |             | Arequipa.....                                 | D                    | 3                      | 2             | P              | P           | 1           |
| Chosen.....                        | D                    | 80                     | 19            | 44             | 29          |             | La Oroya.....                                 | C                    | 8                      |               |                |             |             |
| Chemulpo.....                      | D                    | 6                      | 1             |                | 1           |             | Lima.....                                     | C                    |                        |               | 17             |             |             |
| Gensan.....                        | C                    | 2                      | 1             |                |             |             | Turkey.....                                   | D                    |                        |               | 1              |             |             |
| Seoul.....                         | C                    | 2                      | 1             |                | 10          |             | Union of Soviet Socialist Republics:          |                      |                        |               |                |             |             |
| Czechoslovakia.....                | D                    | 1                      | 2             |                | 1           |             | Railways, etc.....                            | C                    | 77                     | 102           | 41             | 107         |             |
| Greece: Athens.....                | C                    | 12                     | 7             |                | 25          |             | Transcaucasus, Siberia, and Central Asia..... | C                    | 208                    | 190           | 7              |             |             |
| Japan.....                         | C                    | 3                      | 1             | 2              | 2           | 13          | Ukraine.....                                  | C                    | 235                    | 431           | 833            |             |             |
| Latvia.....                        | C                    | 1                      |               |                |             | 2           | Other territories in Europe.....              | C                    | 1,830                  | 1,923         | 1,853          |             |             |
| Lithuania.....                     | C                    | 6                      |               |                | 26          |             | Yugoslavia.....                               | C                    | 20                     | 7             | 24             | 3           | 10          |
| Mexico (see also table above)..... | D                    | 64                     | 86            | 137            |             |             |   | D                    | 5                      | 3             |                |             | 1           |

## YELLOW FEVER

| Place               | Week ended— |    |    |             |    |    |           |   |    |            |    |   |
|---------------------|-------------|----|----|-------------|----|----|-----------|---|----|------------|----|---|
|                     | March, 1928 |    |    | April, 1928 |    |    | May, 1928 |   |    | June, 1928 |    |   |
|                     | 17          | 24 | 31 | 7           | 14 | 21 | 28        | 5 | 12 | 19         | 26 | 3 |
| Belgian Congo:      |             |    |    |             |    |    |           |   |    |            |    |   |
| Boma.....           | 3           |    |    |             |    |    |           |   |    |            |    |   |
| Matadi.....         | 2           |    |    |             |    |    |           |   |    |            |    |   |
| Brazil:             |             |    |    |             |    |    |           |   |    |            |    |   |
| Bahia.....          | 29          | 14 | 1  |             |    |    |           |   |    |            |    |   |
| Estancia.....       | 16          | 13 |    |             |    |    |           |   |    |            |    |   |
| Rio de Janeiro..... |             |    |    |             |    |    |           |   |    |            |    |   |



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